THEATRE CATALOG

11th
ANNUAL
ALL NEW
EDITION

1953-54

Featuring:
THE ACCOMPLISHMENTS OF BEN SCHLANGER, ARCHITECT

THEATRE CATALOG

PAUL J. GREENHALGH,
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EDITORIAL FOREWORD

In the time that has elapsed since the last edition of THEATRE CATALOG appeared, the motion picture industry has gone through a period of revolutionary development that can only find comparison in the events following the introduction of sound.

What made these developments even more explosive, was the fact that they came with hardly any advance warning. The year opened rather quietly, and not too cheerfully. Although the Government's ban on building was easing a bit, it was still difficult to obtain the necessary priorities and building materials. The "good" pictures were rolling up satisfactory grosses, but in general the post-war slump in the nation's theatres was still very much in evidence.

The first hint of things to come was the amazing response given to Cinerama, when it opened in New York City. Block long lines of patrons patiently waiting to buy tickets at the Broadway Theatre, where Cinerama had its initial run, offered graphic proof that the public wanted, and would give overwhelming support to something new and different in motion picture entertainment.

Although most of the industry looked with interest at this boxoffice wonder, the financial and technical difficulties involved in installing such a system made it impossible for the average exhibitor to expect help from this source.

Just about the time Cinerama was settling down for its long run, an independent producer-writer, Arch Oboler, was putting the finishing touches on a film called "Bwana Devil." The thing that distinguished this film from the others, was the use of the three-dimensional technique which had been lying dormant for so many years.

The impact with which the relatively inferior "Bwana Devil" hit at the boxoffice, and the chain of reactions that it set off, is by now too well known to recount here.

The months following this first commercially successful 3-D offering were stamped with one common characteristic—*confusion.* The industry was just not prepared for this sudden upheaval, and in an effort to correct the situation enough talk, statements, explanations and declarations were made to blow up a storm through which very few exhibitors could see.

Things started to break thick and fast. Terms like stereophonic sound, peripheral vision, and aspect ratios were suddenly removed from obscure corners of the dictionary, and were being probed by theatremen, equipment men, projectionists, production staffs, and the public.

Although starting out a bit more slowly, wide screen systems were soon as plentiful as three-dimensional outfits, and it quickly became clear that the struggle for standardization would be between these two "newcomers."

One thing was evident from the very outset; regardless of which system, or combination of systems would eventually be accepted as the standard, the motion picture theatre screen was going to be given a new shape.

As this 11th edition of THEATRE CATALOG goes to press, there are many problems and questions which are still to be answered. Exhibitors are asking themselves what type and size screen should I install? Do I really need stereophonic sound? Can I afford to wait until a later date before making any changes? What system should I give my support?

The list is long and complicated, but it contains questions which must be answered. In keeping with its policy of attempting to give its readers the most comprehensive and accurate information available, the editors of THEATRE CATALOG have tried to gather enough basic information so that many of the answers to these perplexing questions may be answered intelligently.

Although the stress has been placed on projection and sound, the other parts of theatre and its operation have not been forgotten or neglected. As usual, there will be found on the pages that follow surveys, and detailed discussions of all phases of theatre management, equipment, and maintenance.

In the days and weeks to come it will be more important than ever before for theatremen to move with intelligence and a certain amount of caution. In order to do this, they will have to keep abreast of the new developments and have the facts at their fingertips. The editors of THEATRE CATALOG have attempted to consolidate these needed facts into one comprehensive volume. The results of these efforts are to be found on the pages to follow. We believe that it is worthy of joining the authoritative knowledge in earlier volumes which have gained international recognition as the encyclopedia of the motion picture theatre.

1953-54

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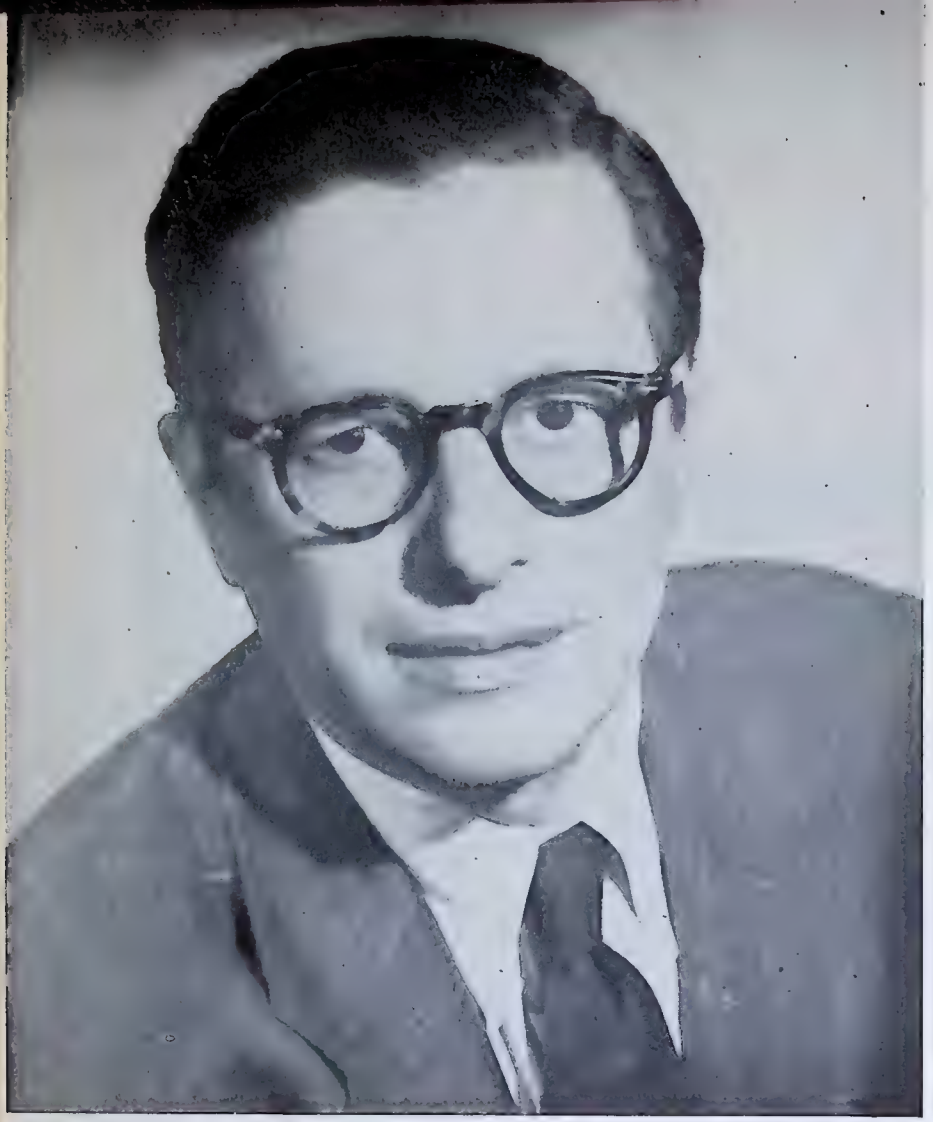
The Accomplishments of

BEN SCHLANGER

Architect

1953-54



Ben Schlanger . . . the Man

What sets a man down a road that he never expected to travel? In the case of Ben Schlanger, three seemingly unrelated incidents — the Florida building boom and bust of the early 1920's, a telephone call, and a business failure — were the instruments that fate used to forge an outstanding career in theatre architecture and design. Like many a young and struggling architect, Schlanger left his home in New York City in 1925 to try his hand at some of the fabulous construction activity that was pushing further and further into the interiors of the lush Florida real estate. The boom came to an abrupt and disastrous halt, and even today half completed bridges leading into the jungle offer mute testimony of the dreams and fortunes that were smashed. Schlanger found himself left with a fine tan, a head full of ideas, and very little else.

Returning to New York, Schlanger received a telephone call from a friend. He wanted to know if Schlanger would be interested in taking a designer's position in the office of an architect who was drawing up the plans for an elaborate theatre. With few other prospects in sight, he accepted the offer. From the very outset he discovered that theatre designing excited his imagination, and he soon drew up an ambitious set of drawings. Once again fate stepped in, and the entire project was called off. However, on the strength of his excellent drawings, Schlanger was offered a position with a firm that designed and constructed theatres in New England.

In 1926 Schlanger was assigned to do the work on the Garde in New London, Connecticut. The theatre was half completed when the firm suddenly went bankrupt. Instead of being another step backward, this event started Schlanger on his independent practice in theatre construction. The mortgage company, left with an incompleted theatre, employed him to finish the job.

Having had a taste of being on his own, and finding that he liked it, Schlanger got his chance to do his first complete theatre project in 1927. He completed the St. George Playhouse, Brooklyn, just in time to welcome the chaos which was brought about with the advent of sound. By this time Schlanger began to show signs of having real ability to develop and perfect new and interesting ideas on the construction and design of motion picture theatres. His emphasis, even at this early formative stage, was on the interior, and in the creation of a theatre that was pleasing to the eye, but also designed to direct the attention of the audience to the screen rather than on the beauty of the interior decor.

In one of his earliest attempts at putting his ideas about theatre design on paper, Schlanger wrote a chapter in a book called "American Theatres of Today." John S. Crabtree, who was president of the Society of Motion Picture Engineers at that time, read the chapter and invited Schlanger to write a paper to be delivered at the Hollywood convention of the S.M.P.E. in the spring of 1931.

Schlanger's paper suggested that it would be beneficial for motion picture theatres to reverse their floor slopes. In 1931 this was considered an extremely radical thought, and was received with great interest by those attending the convention. However, it was not until three years later that Schlanger was given the opportunity to put his idea into practice. After that period of time, he was commissioned to design the Thalia and Sutton, in New York, and used his reversed floor slope feature in both houses. Today, as the result of the work of Schlanger, and other architects who advocated this idea, the reversed floor slope has been improved and adapted in the construction of theatres all over the world.

Knowing that the art of motion picture theatre design was in its infancy, Schlanger could not be drawn away from the urge to devote some of his time to research, even though he was aware of the fact that he was limiting his income by doing this type of work.

Up until the advent of sound, theatres were patterned after stage theatre design principles. A completely new approach was very necessary for the acoustical, lighting, viewing, projection, and psychological aspects of the functioning of the motion picture theatre auditorium. Like all who are of that strange breed of men who have the imagination and determination to uncover fundamentals, Schlanger devoted much effort to learning more about theatre design, and developing new ideas to keep up with the times.

After a great deal of study, he felt that theatre auditoriums should be functional in nature as opposed to the ornate, heavily decorated interior design that was so popular in the 1930's. It was no more than natural that theatre owners who had spent vast fortunes on their houses, were a bit reluctant to go along with this thought. Whether it was because of, or in spite of the ornate theatre design, exhibitors of that period were reaping a full and rich harvest. Aware of this, Schlanger saw that his plan to subordinate everything in the auditorium in order to focus all of the audience attention to the screen, was not yet to be appreciated by the exhibitorrs.

Thoroughly convinced that he was right, Schlanger continued to fight for the construction of simplified auditoria. A look at many of the recently erected theatres will offer proof that this battle was not a futile one. Today the neutralized auditorium setting for picture projection has been recognized and accepted by many theatremen all over the globe.

If he had done nothing else, Ben Schlanger would have earned his place as one of the industry's most progressive and imaginative theatre designers, on the strength of his work on the patented RCA Synchro-Screen. As far back as 1934, Schlanger found it difficult to agree with the universally accepted practice of putting a black border around the motion picture theatre screen.

Schlanger realized that the dark surround was detrimental to the full enjoyment of a film presentation. In the early days of the industry, the auditorium was generally kept dark because the light level of the picture projection was inadequate, and the darkened room served the purpose of making the picture appear brighter than it really was. With the advent of increased light sources, Schlanger believed that the surface brightness of the auditorium could afford to be of a considerable higher level in order to increase the general light level of the room, and also to form a more logical blending of the room environment with the projected picture.

With this realization in mind, Schlanger spent years developing various ways and means of increasing the light level of the auditorium and eliminating the black screen masking. The end result was higher light levels for auditorium surfaces, and the RCA Synchro-Screen, which have been received with much enthusiasm in the United States and Europe.

Schlanger was fortunate in having his various researches incorporated into practice, and has been the original architect, or consultant on hundreds of theatres all over the U.S.A., South America, and Europe, as well as having had the honor of being consultant in the design of the United Nations various auditoria in New York.

In addition to all these activities, Schlanger always found time to be active in many industry organizations, and he has written a large number of articles in architectural and motion picture industry publications.

Born in New York City in 1904, Schlanger received his early education in that city's public school system. He took his architectural undergraduate work at Columbia University, and did post-graduate work at the Beaux Arts Institute of Design.

More recently he was elected a fellow in the Society of Motion Picture and Television Engineers, and a member of the Board of Trustees of the Beaux Arts Institute of Design. He is a member of the New York City committee for the revision of the Building Code for the construction of theatres, a consulting architect in relation with all types of auditoria design, and a member of the projection practices, screen brightness, and theatre engineering committees of the S.M.P.T.E. He was recently appointed chairman of the theatre engineering committee of the S.M.P.T.E., and is co-author with Prof. Talbot Hamlin of Columbia University, of the "Forms and Functions of 20th Century Architecture," in connection with the section on motion picture theatre construction.

Despite the fact that all these activities keep him working on a full schedule most of the time, Schlanger does take time out to pursue his two favorite hobbies; fishing and photography. However, even in his selection of hobbies, Schlanger has not excluded the chance to get in a little more research. He has coupled his interest in photography with his study of the cinematographic arts, and since 1938 has been devoting more and more of time to this study.

Today, after almost a quarter of a century in the motion picture industry, Schlanger is still filled with ideas, and his enthusiasm and desire to uncover newer and better ways of presenting motion picture entertainment, show no signs of abatement. A recent example of this could be found in the fact that Schlanger was the first to publish data showing that warning lines on the camera apertures would enable film to be projected on other than the standard aspect ratio. The production industry was quick to follow this fundamental idea.

Like everyone else, Schlanger is working to meet the challenge of the three-dimensional and wide screen problem. His love for research is sure to carry him to important discoveries. And it will come as no surprise to anyone who knows him, or his work, if some of the major new developments that will become standard in the future, will be fathered by Ben Schlanger.

Ben Schlanger . . . Theories and Practices

Almost from the moment he became interested in theatre architecture, Ben Schlanger found that he wanted to learn and discover all that there was to know about constructing buildings that would be attractive to the eye, but of equal, or perhaps more importance, he wanted to construct theatres that were ideal for the presentation of film entertainment. With customary zeal, he studied the fundamentals and maintained a research attitude in his practice.

The results of this study and research always caused him to go on to the next phase of theatre design. Schlanger was soon an expert on construction, seating and sightlines, projection, screens and acoustics. Almost without realizing it, he became a pioneer and the advocate of new ideas and theories about all of these important sciences that go into the building of a motion picture theatre.

Therefore, in any appraisal of this man's work it is almost mandatory that his theories and beliefs be put under the critical microscope. By doing this it is possible, as perhaps no other method would permit, to get a full understanding of his contributions.

CONSTRUCTION

Theatre construction in the early 1920's included considerable costly false form work of metal and plaster to provide the ornate ceilings and walls with various period architectural styles. In addition to this, the applied ornamental plaster represented an important part of the cost of theatre construction. Schlanger quickly recognized the wastefulness of this treatment, and even in his earliest projects he eliminated false ceiling construction, and did all in his power to get away from the idea of ornamentation, and stressed the importance of creating theatres geared to offer the best in viewer comfort, and capable of properly presenting the screen entertainment.

Schlanger always made the point that the successful use of any equipment or furnishing in a motion picture theatre structure, depended on the suitability of the structure to its proposed use. He has always fought for research in the theatre design problem, as there is in the manufacture and development of equipment. His reason for this is his belief that the auditorium for motion picture exhibition should be a precision instrument almost as much as the mechanisms used in it. Proper seeing, hearing, and environmental requirements, in addition to the ordinary economical and safety problems involved, create intricate engineering problems. Schlanger felt that many of these problems could be solved more efficiently and quickly if there was some industry sponsorship for research. He recognized the fact that the individual architect could hardly do the necessary job.

In the period between the years 1925 and 1930, when a considerable number of theatres were erected, the exhibitor about to build had an important decision to make. This decision was to determine what kind of theatre would best protect his investment for the longest practical period. Most theatremen today would agree that the decision was easy to make. Basically the theatre should provide excellent seeing and hearing conditions, physical comfort, and pleasing architectural finish that would not become outdated too soon. Then, however, the exhibitor thought that the important decision was whether the theatre auditorium should have blue skies, twinkling stars, and outdoor pergolas, or whether his auditorium should resemble a ballroom of the French Renaissance era.

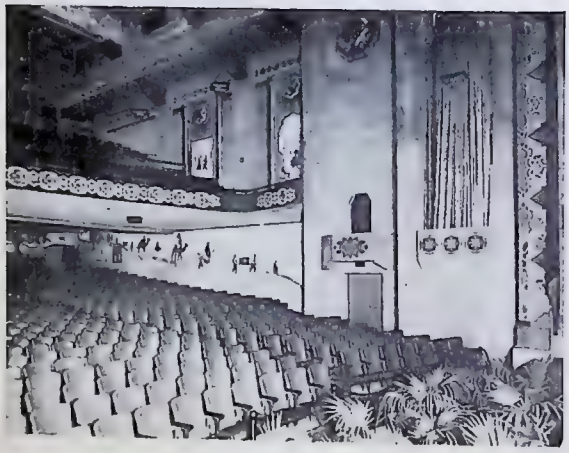
Schlanger has a favorite story that he likes to tell to make this point clear. He had been commissioned to design a theatre, and after it had been in operation for several months he took a prospective client to see it as an example of his workmanship. Schlanger had given considerable thought to designing this theatre properly, and had omitted superficial decoration. Confident that he would make a good impression on this prospective client, he waited as the exhibitor looked around. Schlanger was taken aback when the client asked, "When will the theatre be finished?"

Schlanger enjoys telling this story to illustrate that the exhibitor of that period was conditioned to believe that considerable superficial decoration was necessary if the theatre was to be commercially successful. Through his efforts, and of the others who agreed with his principles, that has now been proven to be a fallacy. Decoration is still to be found in theatre structures, but the tendency is towards using it in places where it does not conflict with the functioning of the theatre, and where it is used, it is of practical type allowing for easy maintenance.

Schlanger was early of the opinion that there were two types of decorative treatment suitable in the motion picture structure.

One was the optional type, the inspiration for which may be derived from any of the known historical architectural styles, or stem from recently developed modern architecture. This decoration, he says, can be used in any part of the theatre structure other than the auditorium proper.

The second type of decoration is surface texture that is created completely by the dictates of acoustical, visual, and psychological requirements, as well as the necessity to create a suitable setting for the motion picture. As an example, Schlanger says that the architectural shape for the auditorium may prove very troublesome acoustically. The design of the auditorium interior can make a projected picture seem too small while the visual acuity of the same picture may be satisfactory. Arbitrary decorative projections and reflective surfaces



THE GARDE, BELOW, NEARED COMPLETION when Mr. Schlanger was consulted. An original type of stenciled-on-plaster ornamentation was added.

will create undesirable light reflections, and indiscriminate artificial lighting sources wlil prove to be undesirable. Schlanger advocates that while the required type of decoration is limited to being inspired by the functional requirements of the auditorium, this limitation is by no means narrowing to the creative designer.

The modern day exhibitor is in a position to benefit from the efforts of men of Schlanger's type, who have made many important advances in the design of the motion picture theatre structure.

Some of the advancements, which Schlanger had much to do with, are better acoustical design, more suitable and flexible floor slope design for unobstructed vision of the picture, improved methods for staggering seat positions, better illumination levels during the picture projection period, functional planning, and many others.

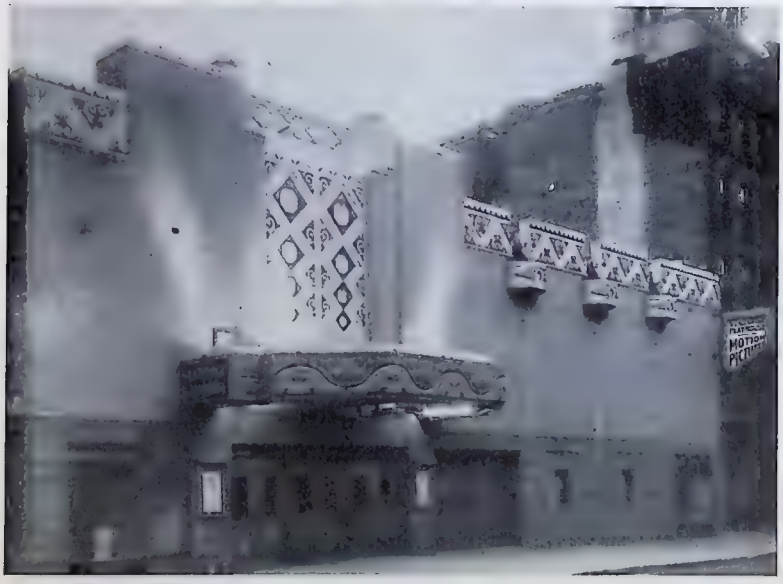
Schlanger believes that there are two important things which must be done. The first is to get the information and proof of better motion picture theatre construction known as widely as possible, and as soon as possible. With the removal of the Governmental bans on construction, this takes on added importance.

The second thing that he feels is sorely needed, is a means to find some logical sponsorship for the research that is required to bring the standards of motion picture theatre design up to the point of the modern mechanism. In 1947 Schlanger wrote that, "it is unfortunate that this research work received so little organized sponsorship in the past because the money, effort, and physical properties that have been wasted because of lack of knowledge in this facet of the motion picture industry would, I am sure, prove astounding."

When designing a theatre Schlanger always tries to keep in mind its size, and the audience group at which it is aimed. He believes that there are two types of audiences, each of which could be considered separately in determining the need for new theatre construction. One type is the audience evolving from a given neighborhood or township, where the patronage is the same most of the time. The other type is located in popular busy shopping or theatrical districts, where the patronage is more transient. The number of transient patronage type theatres in a given location is subject largely to the importance of the locations, and the number of entertainment-seeking transients found therein. In the case of the community patronage type, however, Schlanger usually takes a number of factors into consideration before deciding on the feasibility of the erection of a motion picture theatre.

When determining the need for the erection of new community patronage theatres, he advises that the factors to be studied are basically the density of the population for a given area; the availability of suitable film product; frequency of attendance; obsolescense of existing theatres; and proximity of other theatres.

THE BROOKLYN ST. GEORGE PLAYHOUSE, here, marked Mr. Schlanger's farewell to ornament. The event of sound created functional theatres.



In choosing a location for the neighborhood or small town motion picture theatre, Schlanger believes that the first consideration should be given to the convenience of the patron in reaching the theatre. Most desirable would be a location in the center of the population to be served.

While it is of some advantage to be located on the chief business street of the neighborhood or town, it is not most essential. Usually, a location immediately adjoining the more valuable property should be chosen, he feels. Where property is excessive in cost, it is quite common to find the more valuable part of the property devoted to shop, locating the theatre by means of an entrance from the important street, and having the bulk of the building in the less costly area to the rear.

Some 15 years ago Schlanger was conscious of the trend towards a building which may have in it, at the most, a few small shops to help reduce the rental of the theatre portion. Wherever possible, however, he advises the use of minimum cost land, thus eliminating the need for shops. This permits full architectural advertising value for the facade of the theatre building.

In selecting a site, a corner plot or an inside plot having a public street or alley immediately to the rear of the plot is most desirable for the arrangement of emergency exits, controlled by local ordinances. Schlanger also stresses the need for adequate parking area. In line with this, he recommends a secondary entrance to be used by persons coming from automobiles.

Concerning Schlanger's thinking on the size of a theatre knowing the magnification limitations of 35mm film, he believes that for ideal visual conditions it should not seat more than approximately 1,200, and a 800 seat capacity represents closer to the ideal arrangement. He is of the opinion that theatres with capacities of much over 1,200 seats do not, as a rule, function satisfactorily, and are comparatively costly to erect. Longer spans, excessive circulation areas, and more elaborate mechanical equipment become necessary. Only the operator in congested city locations, depending on transients and controlling first-run film product, he feels, is justified in constructing houses over 1,200 seat capacity.

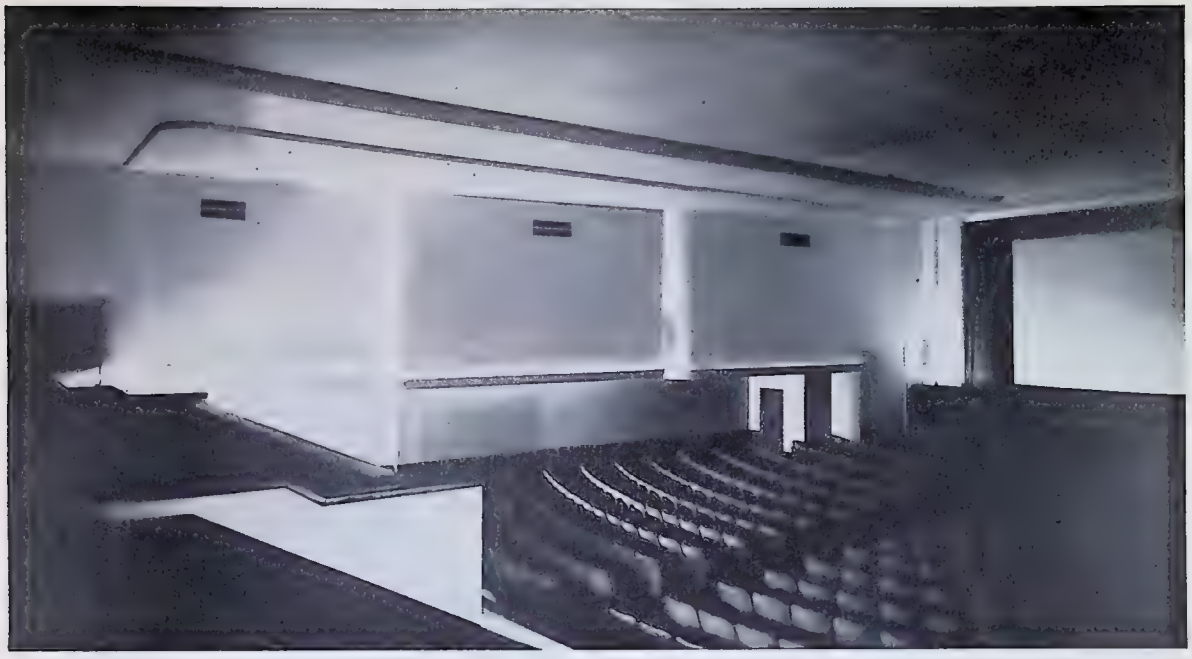
In the construction of a theatre its shape is naturally an important thing to consider. Schlanger's thoughts on this subject are that two-dimensional screen images and electrically amplified sound are better accommodated in auditoriums of a proper rectangle in plan rather, than the more nearly square shapes of stage theatres. The shape is determined by fixing visual standards which enable each viewer to see the picture satisfactorily. The picture must appear undistorted and its details discernible. The quality of the reproduction of the picture depends on the planning of the theatre as well as the equipment used.

When the required land area is not large enough to obtain the desired number of seats Schlanger is in favor of constructing an upper level. One of the advantages he cites for this is that multi-level seating reduces excessive viewing distances, thereby minimizing magnification of the 35mm film.

ACOUSTICS

In a majority of the theatres built in the past 25 years, little or no attention was given to the problem of acoustics while the theatre was in the planning stage. As a result of this, it was necessary to make use of absorbative materials, super-imposed on the existing decorative effects of the house, in what is refered to by many architects as corrective measures. This was another problem which came under Schlanger's critical eye. Working with a research engineer named C. C. Potwin, he developed his theories on how acoustics could

THE THALIA IN NEW YORK shows the start of functionalism. Note the reversed floor incline, staggered seating and restraint in ornament.



AN EARLY EXAMPLE of neutral auditorium surfaces is seen in the Sutton, New York. Ornamentation was sacrificed to acoustical design.

be coordinated with the other important functions of a theatre building. Much of this work was done in 1938, and is still applicable today.

One of the things that Schlanger felt was wrong with acoustic planning, was that it was largely corrective in nature rather than constructive. In most cases the usual procedure was to first plan the theatre from all other aspects, even to determining the decorative treatment, before considering acoustics. Then sound-absorbing materials were selected with a view to correcting or compensating for acoustical deficiencies in the design.

It was Schlanger's contention that this approach to the solution of acoustical problems became common because of these reasons: The preliminary basic form of the auditorium was not planned for best acoustics; the total volume of the auditorium structure was not held down so as to fall within the desirable limits, as it might have been; and the tendency to follow tradition in architectural design practice usually made it mandatory to utilize corrective methods. He believed that reliance upon these corrective devices was carried over into the planning of new theatres, and as a result basic acoustical design was overlooked.

Potwin and Schlanger were of the opinion that more efficient and more economical theatre structures could be built when basic acoustical requirements were coordinated with the other primary functions of theatre planning. They offered four reasons why this constructive approach would produce more successful results.

First, they felt that the various elements affecting the control of sound in a design could be studied initially and planned correctly, with the result that very little or no acoustical material need be provided for the wall or ceiling surfaces. Secondly, minimum surface treatment made for better acoustics because the proper character of reverberation and absorption could be assured, and less critical conditions need be met in balancing the frequency absorption characteristic of the theatre. Their third reason was that in cases where little or no acoustical material was required, the architect was at liberty to use ordinary, every-day materials, thereby making for greater flexibility in design. Their final reason was that when a theatre was efficiently planned in this way, substantial economies could be realized not only in acoustical treatment, but also in other phases of theatre planning.

Schlanger was sure that from the architectural standpoint, planning for proper acoustical conditions in the initial stage did not preclude the ability to obtain pleasing forms or surface finishes for the auditorium.

The research engineer and the architect both agreed that the two fundamental factors that must be considered as the first step in the functional acoustic planning of a theatre, were the preliminary outline or basic form of the auditorium, establishing its proportions of length, width, and height; and the

volume or cubical content of the auditorium structure in its relationship to the seating capacity.

From their research and personal studies Potwin and Schlanger found that when the length of a theatre auditorium became greater than twice the width, difficulties arose from a multiplicity of sound reflections occuring between the side wall surfaces. When the ratio of width to length was less than 1 to 1.4, the resulting design became unfavorable from the standpoints of proper sound distribution and vision. Furthermore this design created an unusually large rear wall, which was often a source of objectionable sound reflections.

Establishing the ceiling height in its most practicable and best acoustical relationship to the horizontal dimesnions, was the next element that these two men studied. They considered ceiling height very important because it affected both the proportions and the structural volume of the auditorium.

From an architectural viewpoint, the determination of ceiling height is governed by three factors. They are sight-line requirements; width of the light beam and its projection angle to the screen; and the general appearance of the auditorium. From the acoustical standpoint, Schlanger felt that two other important factors should be included in the determination of ceiling height. These were the proper relationship of the ceiling height dimensions to the horizontal proportions; and the optimum cubic-foot volume per seat required for a given design.

One of the things which Schlanger and Potwin found to be wrong, from an acoustical point of view, was the excessive ceiling heights that were found in many theatre auditoriums. The large structural volume per seat and the prolonged reverberation time resulting from this acoustical defect in theatre planning produced a need for corrective materials in many new theatres.

Using a 900 seat house as their model they decided that the structural volume of an auditorium seating that many persons, should lie between 120 and 130 cubic feet per seat. The factors affecting the determination of these limits are the optimum or best times of reverberation at different frequencies for reproduced sound, and the fixed and variable sound-absorption required to produce these times of reverberation.

Fixed absorption refered to the absorption provided by theatre chairs, carpets, and interior surfaces of standard furred construction, finished in an ordinary manner. Variable absorption is the absorption normally provided by the audience, Optimum reverberation times are usually based on an audience condition approximating two-thirds of the house seating capacity.

The chairs constitute the major part of the fixed absorption for a theatre initially planned to be acoustically functional in design. To ensure a major change in the reverberation time, Schlanger agreed that it was very important that these chairs be of an efficient upholstered type. A 20-inch chair was found to have a sound absorption value equivalent to more than two-thirds that of the average person.

From the standpoint of vision, Schlanger said that the proportions and cubic-foot volumes of auditoriums varied for a number of reasons. One was the type of seating arrangement used in the horizontal dimension of the auditorium, determined by the number of seats and aisles to be arranged across the width of the auditorium. Another was the type of seating arrangement employed in the vertical dimension of the auditorium. Still another important factor was the inclination or inclinations of the floor for the main or orchestra level.

The degree of inclination of the floor in all cases is affected by the manner in which the seats are placed behind each other. When these seats are arranged in staggered fashion so that the center of any seat is always directly behind the dividing armblock of the preceding seat, Schlanger and Potwin said that the inclination of the floor may be reduced by almost one-half. They felt that variations in the floor inclination was important in the question of acoustics because they directly affected the height and inclination of the upper level seats and the placing of the projection room, thereby the total height of the auditorium.

After a great deal of study Schlanger and his co-worker concluded that there were a number of advantages to be gained by constructing theatres with lower ceiling heights. These were a lower initial time of reverberation, resulting from a smaller volume per seat; reduces surface areas to be treated acoustically, permitting more efficient control of sound by shaping the interior surfaces; and the economies realized in construction costs through the elimination, or reduction in quantity, of acoustic materials usually required, as well as through the use of smaller quantities of ordinary building materials.

Some other advantages which they found to result from the proper control of ceiling height and structural volume, were that economies in the size and capacity of sound-reproducing systems were frequently made possible in theatre auditoriums having reduced volumes per seat. Another was that excessive power output was not required to compensate for high energy losses frequently caused by the use of acoustic materials on wall or ceiling surfaces.

The final phase of theatre planning which Schlanger and Potwin decided influenced both the acoustical condition and the architectural treatment was the detailed shaping or styling of the surfaces within the auditorium. This phase of planning was said to be very important because it dealt with the proper determination of basic outline and structural volume to control the character of sound and the destination of sound reflections.

When an auditorium was to be used for direct speech or music presentations, it was desirable to plan and arrange the interior surfaces so as to aid in reinforcing the sound produced on the stage. They contended however, that in the motion picture theatre, where sound was reproduced and adequate power could be produced electrically, the acoustical problem was not one of designing surfaces to gain reinforcement. Rather the interior surfaces of this auditorium should be shaped and arranged so that they function to break up or disperse sound energy. In their opinion this result could be accomplished most successfully in cases where favorable basic proportions were maintained, and where the initial time of reverberation was efficiently controlled by the structural volume of the auditorium.

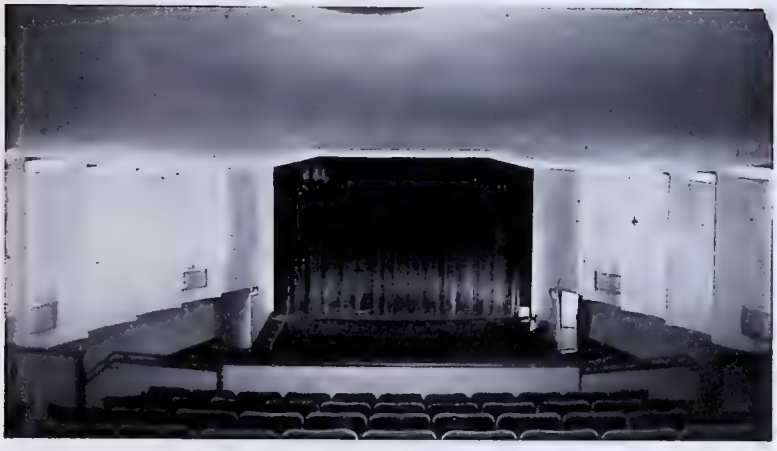
ANOTHER EARLY EXAMPLE of Mr. Schlanger's neutral auditorium treatment is seen here in the Bell. Walls were shaped in acoustic form.

Schlanger said that irregularity of surfaces arranged to break up or disperse sound energy could take the form of angular or sloping sections, non-symmetrical broken offsets, or convex projections. The size of each surface unit, its position and arrangement on a wall or ceiling, and its degree of projection from a horizontal or vertical line would depend upon the requirements for control of the destination and dispersion of sound reflections in the individual design. The surface of a major angular or convex projection may in turn be broken into smaller increments if required in special cases for dispersion of the very high frequencies.

One of the major conclusions that Schlanger and Potwin drew from their

research into the problem of acoustics, was that upper level seating was a desirable feature. They felt that such a plan offered the most efficient solution to the control of horizontal proportions, ceiling height, and volume per seat, assuming that the requirements for correct vision are properly incorporated in fundamental planning. This form of design would also introduce a structural break-up at the rear of the auditorium that is initially helpful in controlling sound reflections.

COLONIAL DESIGN OF THE WALDO, Waldoboro, Maine, shown here, conforms to the character of the location. The open boxoffice was new.



Schlanger did not stop at just developing theories and then do nothing with them. Some of his earliest efforts at creating a theatre with the problem of acoustics well in mind were the Whitney and Westville in Connecticut. In both houses he so shaped the surfaces as to completely eliminate absorbative materials.

AUDITORIUM LIGHTING

Like many of the other aspects of motion picture theatre design, the auditorium lighting, in the great majority of cases, followed the pattern of stage lighting. A large number of existing theatres still show glaring examples of exposed light sources lit during the picture projection period. These sources are particularly annoying to the viewer when seen within his normal field of vision. This was another problem of theatre design which Schlanger felt should be improved upon.

Some of his earliest attempts at solving this problem involved the use of indirect lighting coves. However, he soon found that they were costly to install and very difficult to maintain, and he discarded its further use.

A later development, which today is commonly known as "down lighting" came into use, and he encouraged the adoption of this system immediately, because the source of light is concealed. It also allowed the projected picture light to predominate without competition from other light sources. In the beginning Schlanger found it necessary to have these lighting fiixtures, which were concealed above the ceiling, custom made. Today this type of fixture can be found in almost any lighting fixture sales room.

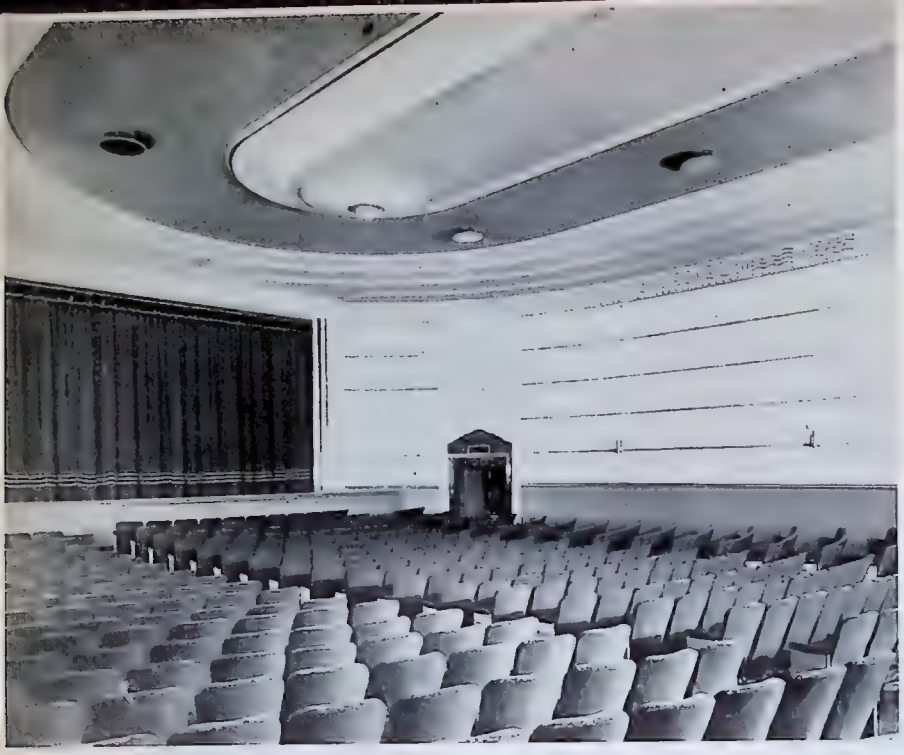
In the opinion of Schlanger, the development of down lighting and the reevaluation of the nature of the surfaces of the auditorium as it reflects or absorbs projected screen light, are the two outstanding developments which have made lighting of a motion picture theatre, during the projection period, of a most comfortable quality.

He found that the ceiling and wall surfaces of the motion picture theatre auditorium had to be designed to control the manner in which they would receive the light from the projected picture for three reasons.

First, arbitrary decorative forms and textures resulted in disorganized and annoying patterns of light reflections from the projected screen. Also bold projections would cast shadows which in turn would be highly contrasted to an adjoining surface which would show a high light reflection. This spotty reflection surface became as annoying as exposed lighting fixtures. Most of the interior surfaces in the auditorium were usually dark colors and for the most part absorbed light reflections from the screen, and therefore, did not contribute towards increasing the general light level of the room necessary for circulation of the patrons.

In order to increase the general light level of the auditorium, Schlanger decided that all arbitrary forms of decoration had to be eliminated, and the surfaces had to be designed so as to eliminate highlights and shadows. The effect he was after was to have a texture which would in an all over manner, reflect an undisturbed pattern of light reflection from the projection screen.

This was a worthwhile development because it not only created a suitable atmosphere to view a picture in, but it also made it easier to get about in the auditorium. Another important factor was that after the job was finished the



EARLY EXAMPLE OF MR. SCHLANGER'S CONSULTATION WORK is the Empire, Montreal, Canada, left, designed by Eliasoph and Greenspoon.

light level was maintained without any csst for current consumption.

Following Schlanger's thinking, it then followed that the only secondary light sources which became necessary were those that would be used to provide very bright lighting for intermission periods, and such local lighting as required for aisles, promenades, etc., the latter being accomplished effectively by the use of the concealed recessed type of "down lighting."

One of his earliest examples of surface texture projected screen light control was in the United Artists Preview Theatre in New York City. Some more recent examples are the Pix, Rock Hill, S. C., the Island, Bermuda, and many others. One which Schlanger considers to be an outstanding example of surface texture lighting, is the Cinema, Framingham, Mass., in which the entire surface of the interior consists of a specially angulatized perforated metal by which is concealed all acoustical absorbing materials and recessed ligthing.

The problem of projected period lighting was not fully solved, in Schlanger's estimation, until the immediate invironment to the picture screen was considered. Examination of some of his early work shows that he was already working on this problem. The Sutton in New York, and Jewel, Brooklyn, were constructed with auditoriums where all of the surfaces, with the exception of a narrow black mashing around the screen, were of a very light and uniform color. The Crown, New Haven, was one of Schlanger's earliest experiments in which the surfaces of the auditorium were allowed to continue and meet the edges of the projected picture, with the complete elimination of even the three inch black masking which he had used up until this time. It was Schlanger's work on this problem that led directly to the development of the RCA Synchro-Screen.

SEATING AND SIGHTLINES

One of the very first things which Schlanger gave a great deal of time and study to, was the problem of seating and sight-lines for the motion picture theatres. As mentioned earlier, the first paper he ever prepared for the Society of Motion Picture and Television Engineers, back in 1931, was concerned with this problem. In any consideration of Ben Schlanger's work and contributions to the industry, it is almost mandatory that his thoughts and deeds in this area of activity be given consideration.

When Schlanger made his entry into the motion picture theatre phase of design and architecture, most of the theatres constructed were patterned after legitimate stage auditoriums. He quickly realized that this approach was entirely wrong for the presentation of the then still new medium.

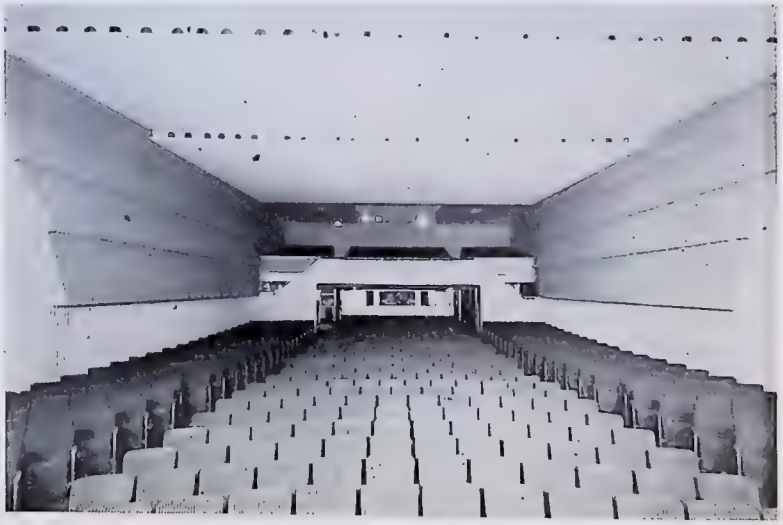
At that convention of motion picture engineers, Schlanger said that the motion picture theatre auditorium floor slopes did not have to follow the forms required for stage theatres. He introduced a type of floor slope for orchestra seating which sloped upward toward the screen, instead of downward, thereby permitting much milder pitches in upper level seating. This was possible because the motion picture screen, a vertical element, could be raised or lowered to suit the scheme of th flooer slope. Stage theatres do not permit this flexibility because of the necessarily fixed position of the stage opening.

It can be clearly seen from these observations that Schlanger approached this problem after a great deal of study and thought, and was from the very beginning a champion of discarding outmoded and inefficient theatre designs. He saw immediately what many who had spent years in the industry failed to see; motion pictures were a medium all by themselves, and in order to properly present them theatre auditoriums had to be constructed specifically with that purpose in mind. Placing a screen in an auditorium designed for live performances would not do the job.

At the time Schlanger introduced his thoughts on reversing the floor slope, the orchestra floor of theatres pitched downward towards the stage, the total pitch varying from about three feet to 10 feet, in accordance with the depth of the seating.

These pitches created costly excavations, inabilities to locate exit doors in relation with outside grades, and very poor, steep balconies. Schlanger's studies indicated that the motion picture screen could be placed in any position, in a vertical sense, in a relation to the elevation of the seats of the auditorium.

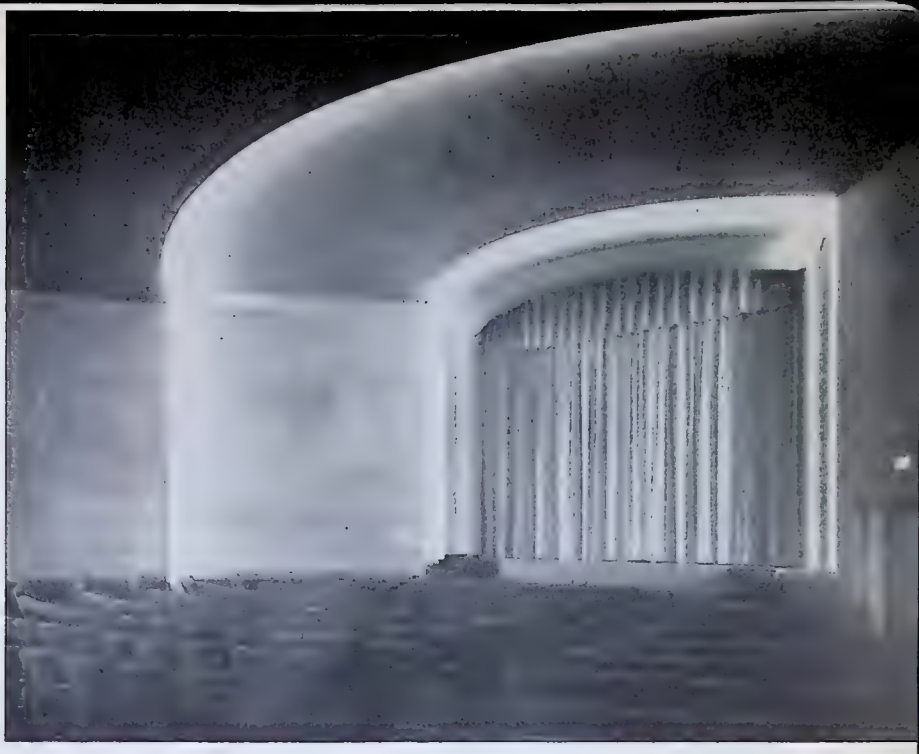
"DUAL INCLINE" OF THE KENT, Montreal, Canada, shown below, was designed to slope seating downward as well as upward toward the screen.



In an attempt to correct these faults, Schlanger developed his reversed slope design which is known today, in its modified form, as the dual incline. What this plan did was to change the slope of the orchestra floor, bringing a higher point of the floor nearer the screen instead of the low point. In other words, instead of the usual floor slope of seven feet downward towards a motion picture screen, there was a slope starting from the rear of the auditorium of only about two feet downward, and half-way down the seating depth, there started an upward slope towards the motion picture screen of approximately a little less than two feet, varying with the depth of the seating.

A problem which Schlanger still feels requires more work, is that of determining the desirable angles of view upward and downward to the picture. The quality of a theatre design from a patron-comfort standpoint, is very much affected by this yardstick. Spectators in upper level seating should not experience excessive upward viewing. He says that the ideal design would present the largest percentage of seating positions for the entire theatre affording desirable vertical angles of view.

As could be determined by previous remarks, Schlanger has always been an advocate of upper level seating, where it is possible. He was in favor of this form because viewing distances and screen image sizes were thereby decreased, which is still desirable with the advent of the wide screen movement, and his reason is that the screen size is dependent completely on viewing distances.



THE NEW STREAMLINED NORMANDIE, New York, was inspired by the French ocean liner and featured armchair seating comfort.

He believes that as the result of his work, and that of his contemporaries, balcony seating can be at a comfortable level with relation to the picture level, and projection angles can be kept well within recommended limits.

When building a theatre with a single upper level of seating, the orchestra floor must be lower. However, if properly designed the orchestra floor is lower in relation to the level of the screen only for the portion farthest from the screen. And Schlanger says that this lowering of the floor does not create any annoying upward viewing because the distance from the screen places the screen well within the normal range of vision.

With this design, the balcony seating positions are improved to a great extent, and at no sacrifice in the quality of the orchestra seating. Another advantage of this design is the elimination of the requirement for the intermediate step in the balcony aisles, the extra step which had to be used to get from the level of one seating platform to the next. Since this step had to be shorter than the rest of the platform, it has always created a hazard, and many of the accidents in theatre aisles have been due to this fault. Because the pitches of the balconies can be much less severe, Schlanger says there is no need for the extra short step between seating platforms.

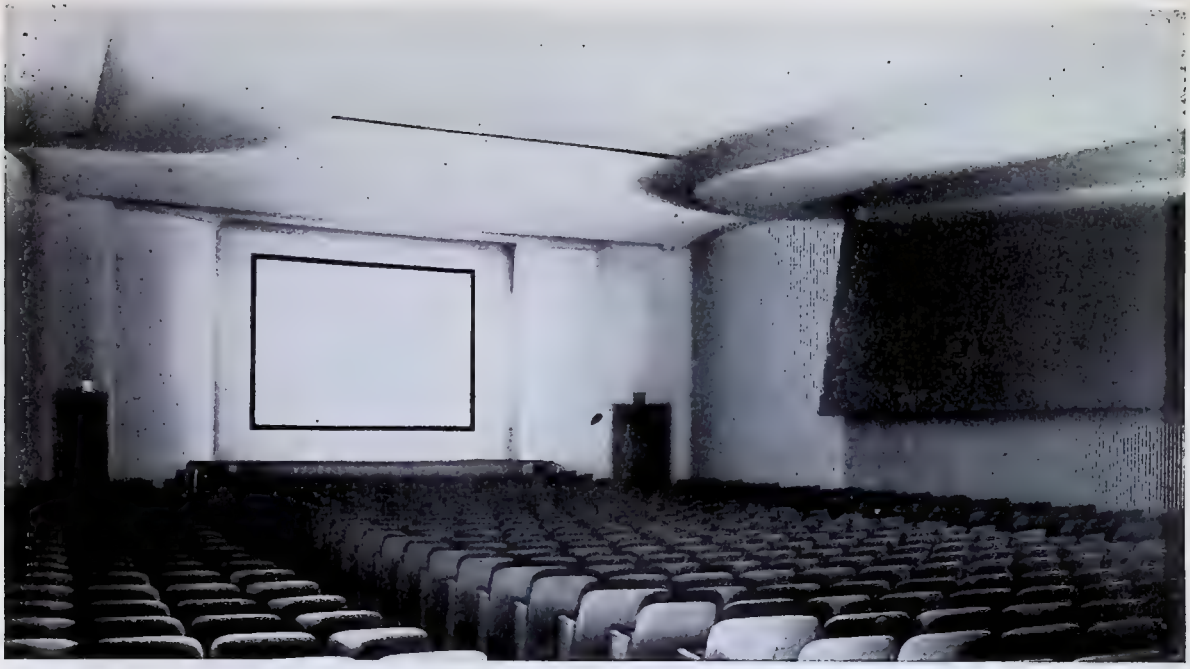
FUNCTIONAL SIMPLICITY is shown in views above and at left of the Universal Artists' screening room, another Schlanger accomplishment.

Along about the middle 1930's Schlanger made a study of the use of staggered seating in many European theatres, and he could not see why this system was not adapted to theatres in this country. He noticed that the seating on either side of the central section of seating in auditoriums automatically, due to positioning, provided the benefits of staggered seating. He concluded therefore, that there was no reason why the central section of seating in an auditorium could not be arranged so that the same benefits afforded from the side seating, could not be incorporated so that everyone seated in the auditorium would be viewing the screen between the heads of the persons sitting in front of them, without having to shift their head or body to achieve such a view.

The somewhat jagged aisle line created by staggered seating, however, caused some building code authorities to object. Schlanger fought for many years to eliminate these objections, and for the most part, they have been overcome by arm block fillers, or a realization that the indented aisle line had existed anyway in the side seating sections. Today staggered seating is in common use, and is even installed when existing theatres put in new seats.

Having gotten general acceptance of staggered seating, Schlanger is now attempting to encourage the use of what is commonly known as "continental seating," where all of the longitudinal aisles are eliminated with the exception of the longitudinal aisles against the side walls of the auditorium. With this type of

MANY VALUABLE CONTRIBUTIONS were made by Mr. Schlanger toward the elimination of the black border around the motion picture screen.



FUNCTIONAL BEAUTY, developed by Mr. Schlanger, is shown in the Westville, top and right views. Note minimum of black screen surround.

seating, seats are found where they belong, and aisles only where seating positions would be least desirable. For necessary traffic, comfort, and safety in emergency exiting, this type of seating requires at least eight inches more in spacing between the rows and frequent exit doors along the side walls of the auditorium. When done this way, even greater seating comfort is accomplished, and improved emergency exit conditions are achieved.

A number of Canadian and American building officials have approved this type of seating, and as a member of the New York City Committee for Revising the Building Code for Theatre Construction, Schlanger has helped to incorporate this type of seating into the New York City Building Code, which revisions are now approved by the City Council.

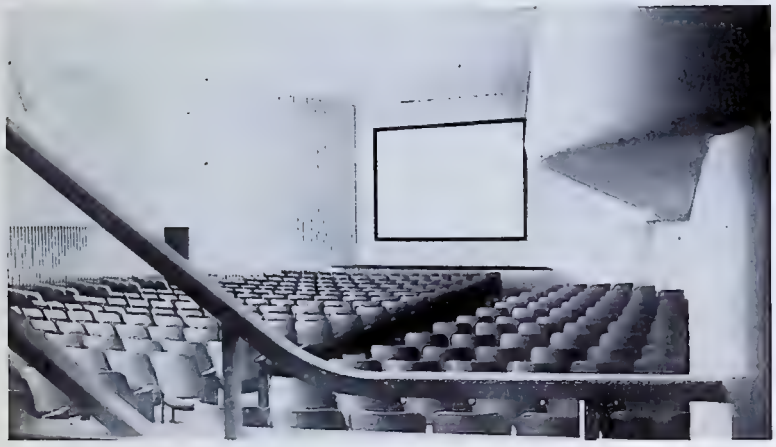
Another development in seating which Schlanger is interested in, and which was incorporated into the Cinema, Farmingham, Mass., is the idea of each person having a complete seat and the full use of the two arm rests. He is sure that as a result of home television habits developed by the public, exhibitors will find it advisable to provide this extra comfort at a fairly early date.

SCREEN SURROUNDS

Although he can not claim, nor has he ever tried to claim, that he was the only one advocating the elimination of the black border around motion picture screens, Schlanger has made many valuable contributions to this problem, and

ANOTHER VIEW OF THE WESTVILLE auditorium, at right, ably illustrates many contributions to modern design developed by Mr. Schlanger.

MODERN, FUNCTIONAL, ATTRACTIVE, BEAUTIFUL is the Pix, Rock Hill, North Carolina. The Schlanger influence is apparent.



has been one of the leaders in the battle for many years.

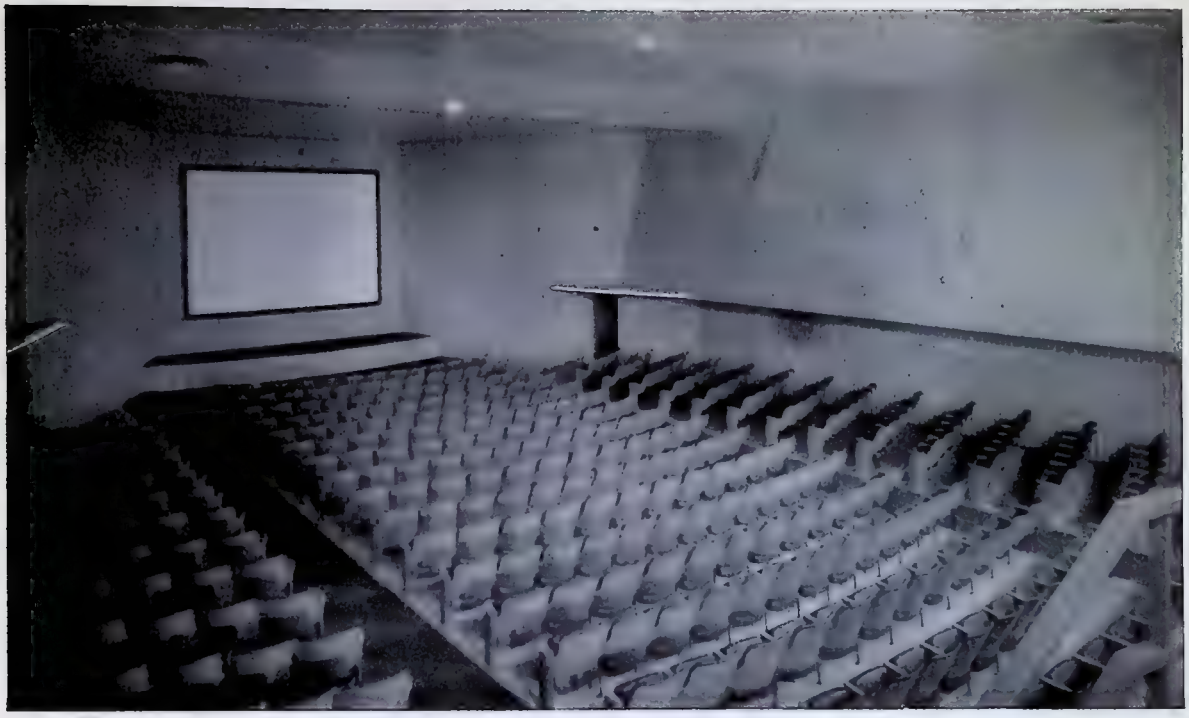
As far back as 1938, Schlanger announced the invention of a means of enlarging the visual field of the motion picture screen without actually increasing its size.

By an arrangement of diffusing and reflecting surfaces behind the screen, he was able to create a shadowy border around the picture which simulates for the spectator the peripheral vision of reality. Because the only light used to produce this was that of the projection beam, the picture edge blended into the surrounding field.

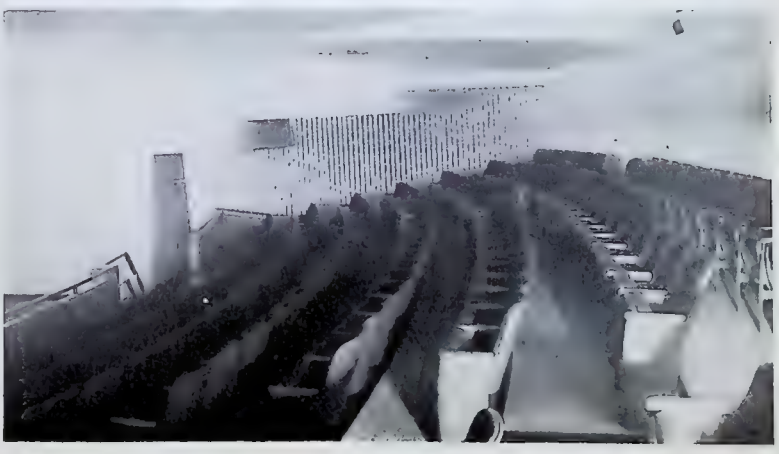
The intensity of light and color on this field constantly changed with the light and color of the projected picture. Light from the projector fell on the marginal area of the screen and, penetrating it, was diffused and reflected by the concave surfaces behind and beyond the screen edge.

No attempt was made to create on the extended field any definition or duplication of forms occurring on the marginal areas of the screen. In addition to the automatic synchronization of light on these areas with that on the contiguous field, the invention of Schlanger's made possible the control of light on side walls of the auditorium.

Schlanger originally called his invention the "Screen synchro-field." He continued to work on it through the years, making improvements and experimenting to make sure that it was capable of doing the job it was intended to do. Today, that screen has been perfected and is known throughout the industry as the RCA Synchro-Screen. Schlanger



IT IS ALMOST IMPOSSIBLE TO VISUALIZE more efficient use of space than that shown in these views of the Pix auditorium.



is convinced that his screen is easier on the eyes, gives the effect of better color, causes an illusion of added width and height, and creates an atmospheric effect. The screen has been installed in many theatres in the United States and England, and the reaction has been a gratifying approval of Schlanger's original intentions and beliefs.

WIDE SCREENS

Schlanger has long been an advocate of larger screens in theatres. He believes that the larger screens must be used along with a cinematographic technique which takes advantage of the extra surface provided, rather than merely using the bigger field for magnification of the image. He says that while it is true that a wide angle camera view becomes consistent with the new large screen areas, it is important to remember that film story telling can utilize wide camera angles only for some of the scenes in most productions, and very few of the scenes in the intimate type of production. Schlanger is of the opinion that the added screen area can be used very effectively for interpretative cinematography, rather than for forcing panoramic scenes constantly.

In keeping with this thinking, Schlanger is currently working on a device which he calls the Variascope. The Variascope is to be used in connection with a motion picture camera which will enable the constant changing of the aspect ratio on a given screen area, without changing lenses or aperture plates in projection.

Ben Schlanger . . . Construction

• THE JEWEL

The Jewel in Brooklyn, New York was one of the early theatres on which Ben Schlanger was the architect. Although it was constructed in 1936, it is still a modern looking house thanks to the work of its designer who put many of his then new ideas into operation in the construction of the Jewel.

The theatre was fashioned out of an existing theatre and a portion of a public market building. However, since only the walls and roofs of the previous buildings were allowed to remain intact, the Jewel was really a new theatre, and not just a remodeled one.

Following Schlanger's thoughts on theatre construction, the entire architectural scheme is functional, omitting ornamentation except for a simple stripe pattern of the fabric used along the side walls below the lighting coves.

The architectural lines were based on provisions for illumination and ventilation, for Schlanger long believed that audience comfort was one of the most important considerations in theatre construction.

The Jewel's auditorium side wall fabric was a delicate blend of rust, cream and gray. Wherever it was indicated, a layer of rock wool was extended across the facia of the stadium for sound absorption purposes, and the entire facia was surfaced in an unpatterned coral-colored fabric. The plastered ceiling and walls were painted in warm grays shading from dark near the screen to light toward the auditorium.

The lobby enters upon the foyer area, which is continuous with the standee space, or promenade. The light sources were of the open louvre type concealed in the ceiling.

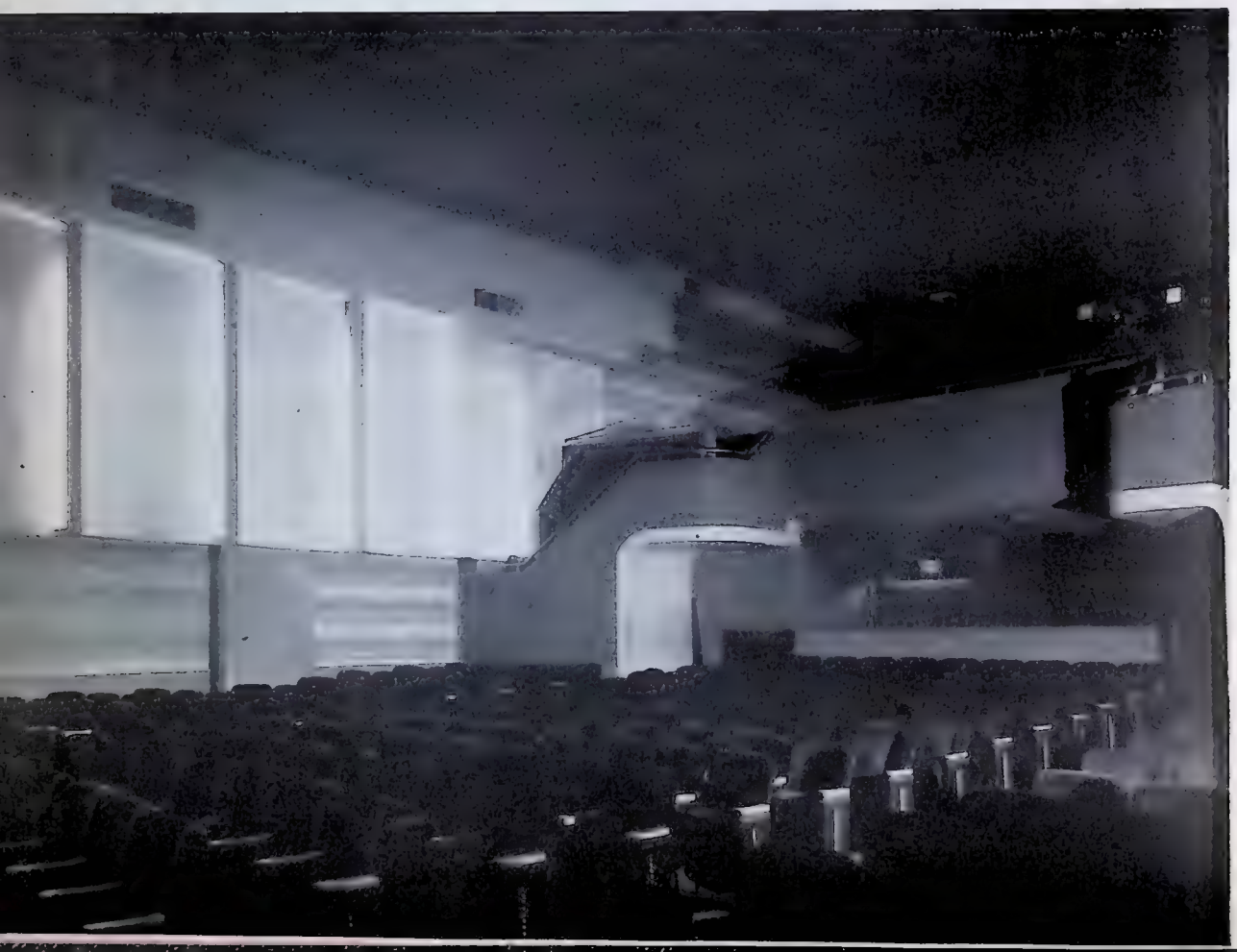
The floor slope was of a modified reversed-incline type. With auditorium lighting up, the wall illumination is continuous from rear to the screen. The walls are vertically divided into sections each forming a shallow recess in a parabolic curve adjusting to reflect light from cove lamping at the rear edge, out and back into the auditorium. Cove lamping was in three colors with dimmer control, low-wattage lamps being used, spaced 10 inches on centers.

The main floor lounge immediately off the foyer, was in direct line with the auditorium and separated from the standee area by only a low barrier. There being no glazed partition, the performance can be heard as well as seen from this lounge. This was one of the first theatres to adopt this type of lounge. The lighting was from concealed sources in plaster ceiling coves. The carpeting and furniture, in keeping with the entire mood of the theatre, is functional and modern in design and appearance.

There is another lounge located directly beneath in a sublevel reached by stairs from the main lounge, and giving access to men's and women's rooms.

The front of the theatre was finished with "California Stucco" limestone finish. A large marquee projects the full depth of the sidewalk. The marquee soffit is illuminated with individual aluminum reflectors instead of the exposed bulb strip lighting that was commonly in use at the time of construction. The main entrance doors are aluminum with Alumilite plating.

A visitor to the Jewel would have difficulty in believing that the theatre was constructed in 1936. Schlanger's use of modern materials and modern thinking created a house that has retained its youthful appearance despite the passage of a number of years.



VIEWS OF THE JEWEL show the lasting qualities of intrinsic values. Built in 1936, it is still modern due to the Schlanger touch.

• THE TACNA

Schlanger has always been an advocate of multiple upper level seating, and because of his work on floor slopes, it became possible to create balconies of an extremely "flat" nature. An outstanding example of this type of construction may be found in the beautiful Tacna, in Lima, Peru.

Constructed in 1937, the theatre, is part of a 10 story building which includes apartments, offices and shops. Schlanger, working with architects William Hoffberg, Reisner and Urbahn, created the first theatre in Peru to be equipped with modern air conditioning, and completely fireproof. It has 883 seats on the main floor, 405 on the mezzanine level and 657 seats on the second balcony.

Patrons find the main floor appearing more or less level, with no uncomfortable downward slopes while walking in the aisles. An extraordinarily short stair climb leads to the upper seating levels.

In the aisles of the upper level seating, there is only one step between the successive platforms of seating, in place of the step-and-a-half that was commonly used. This extra little step was eliminated by the mild and comfortable upper level slopes.

The auditorium plan provides an excellent viewing and hearing position for every one of the 1,945 auditorium seats. No seat is placed too far from or too near the picture, and not too much above the level of the screen.

Each of the three floor levels is situated to afford the most comfortable viewing position. The motion picture screen appears to be at a level with the eyes of persons in any location. Seated in the balcony, the patron has no feeling of looking down at the screen as in earlier types of theatre design.

Staggering of seats completely eliminates the blocking of vision which occurs when people are seated in front of each other. Most of the credit for this innovation was rightfully given to Ben Schlanger, for it was his research that made the design possible, and created what are considered to be the "flattest" balconies in the world.

Schlanger's hand can be seen in other parts of the house. The materials and color scheme were selected from the standpoint of beauty and maintenance. The design stresses the simplicity of room surfaces whether they be wall, ceiling, or floor. Here again is a working out of one of Schlanger's basic ideas; that excess ornamentation distracts from the attention to the screen, and also creates added problems of maintenance.

The auditorium has a dado wall at all the levels of white oak arranged in vertical battons. The walls above the dado are in neutral transite with small perforations to accomplish proper sound treatment. The rear standing wall is covered in dark brown leather and two structural columns are covered with a yellow gold colored metallic fabric. The structure of the orchestra floor and balconies is reinforced concrete, designed as a rigid frame to resist earthquakes. The roof consists of steel trusses with corrugated aluminum sheets.

One of the features of the balcony construction is the shallow depth of supporting girders, with over-hanging cantilevers, due to the unusual flatness of the balcony designs.

Another of the Tacna's unusual features is that it has no hanging or wall fixtures. The downlight type of fixtures, some 600 in number, are spotted in an over-all pattern in the main auditorium ceiling, mezzanine and second balcony soffits, and foyer, lounge, and lobby ceilings. Lighting effects in the auditorium and orchestra spaces are soft and restful to the eyes.

Neon cove lighting is used above the wainscoting in the auditorium and at the mezzanine soffit. Exposed light sources have been completely avoided. Cove lighting and concealed pocket lights throw an even glow of light on all of the surfaces, with only a special accent of highlights on such important features as the main stair, displays, and featured architectural effects.

Schlanger's touch can be seen in the special type of corrugated texture of the auditorium walls and ceiling which makes it possible to keep the coloring comparatively light. With this treatment, disturbing light reflection from the walls when the screen light is projected, is avoided, yet the walls appear relatively light in tone during the picture show.

The front of the theatre was designed with a maximum of glass to achieve openess and the greatest degree of light. The marquee is an extension of the mezzanine floor cantilevered over the sidewalk. The facia and the soffit of the marquee are covered white and gold mosaics. Parallel lines of neon tubing were designed to give the ceiling of the marquee an over-all glittering effect. A planting box with all-year flowers and shrubs runs the length of the marquee.

Above the marquee a large window admits light to the mezzanine and second balcony lounges. The second balcony is held back from the window line, thus providing an open well appearance from the floor of the mazzaine through the ceiling of the second balcony. A white satin drape with a sunburst pattern hangs in this well to be pulled across the large window areas when desired.

A suspended light trough from the ceiling of the second balcony lounge is designed to throw an over-all intense glow upon a reflective ceiling surface which is visible from the outside.

The ceilings of the inner and outer foyer are of the same color pattern mosaic as that of the marquee. The floor is coral terrazzo with white metal dividing strips. Walls are of a black marble with a rich pattern of color veining. The display frames for advertising are attractively designed as shadow boxes, and are a part of the architecture of the walls.

Tempered glass doors lead to the inner foyer and theatre proper. Opposite the inner foyer is a concession counter in red mosaic. The lounges, ladies' rooms, managers' reception room, main stairs to the mezzanine, and all aisles are carpeted. The carpet design is of an abstract pattern of colors of green, grey, black and white. From the first floor lounge a free standing curved stair leads to the mezzanine through an open stair well. Structural and decorative

columns in the lounge are covered with gold and red mosaic.

The wall extending through the open stair well is covered with a metallic wall covering of bright orange. The wall opposite the auditorium is in vertical strips of white oak wood in a matte finish. The ceiling is a deep grey. The source of light is from an open cove in the stair well, and through hat-lights recessed in the ceiling.

The front stairway leading to the second balcony is free standing and enclosed with thempered glass visible from the street. Attractive planting areas inside this glass enclosure, and underneath this stair gives a feeling of openness.

The ceiling of the mezzanines and second balcony overhang are painted a soft coral red to match the color of the seats. The corrugated plaster of auditorium ceiling is painted in a soft sea green. The contour curtain is chartreuse satin with a sunburst pattern.

A more detailed description of the Tacna may be found in the 1947-48 edition of THEATRE CATALOG.

• THE ISLAND

Teaming up with fellow architects Hoffberg, Reisner and Urbahn, Schlanger put many of his pet theories into practice during the construction of the Island, in Bermuda.

A number of problems faced the designers. One of these was the fact that the lot upon which the theatre was to be constructed was cramped. It demanded complete utilization of every inch. The shape of the lot was such that there was not one right angle drawn in the entire plan.

The builders also insisted that the theatre conform to the coral-rock and pink-stucco architectural mood of the rest of the island of Bermuda.

Entering the theatre through a neat, clean pair of plexiglass doors flanked by a marble wall, and by reeded wooden screens, the patrons finds himself in a house that has an air of culture and quiet charm.

The 650 seat theatre has an upper mezzanine lounge which affords an open view to the entrance. One of the purposes of this type of design was to permit patrons an ideal location to meet friends.

Since water and space are both precious items in Bermuda, both the mezzanine lounge and the lower lounge are served by toilets carefully stacked to conserve piping and water.

The walls in the auditorium are gray in the corrugated palster section near the screen, and cream color elsewhere. The ceiling is sand-finished plaster painted gray-green. The chairs in the auditorium are upholstered in blue-green coated fabric on the seats, and mohair on the back. The mezzaine parapet fascia is hard plaster painted gray, and angled to reflect sound downward. Recessed downlights are used to illuminate the aisles and the house.

Instead of a marquee, the theatre has an open vestibule or portico, tied to the foyer by a flagstone floor which is continued as far as the auditorium doors.

The plate glass entrance doors have bronze hand and kick plates, and the free-standing display case is also bronze. Foyer walls are green marble on the auditorium side, and natural finish oak boards opposite. The vestibule walls are white marble.

It is in the auditorium, the screen area specifically, that Ben Schlanger's work can be seen. He designed the front of the house so that the screen "floated" in mid-air, and the black masking was completely eliminated. Since this theatre was constructed in 1946, it can be seen that this elimination of the screen border was done before the RCA Synchro-Screen was developed.

At the Island, the arrangement of screen and surround give synchronous lighting of the surround by light spilled from the picture, thus destroying the sharp contrast which has been proven irritating to the eye muscles. During short features this surround is softly lighted by bulbs from behind.

As can be seen in the accompanying photographs, the interior is free of any irrelevant decoration which might tend to compete with the audience for its attention. As in all the theatres in which Schlanger was one of the designers, the Island's auditorium is given an almost clinical decorative treatment. For it has always been Schlanger's very strong belief that everything should be subordinated so that attention is focused upon the screen.

The upper level of the Island, which seats 200, is also an example of the flat type of balcony which Schlanger helped make possible by his research on floor slopes.

THE ISLAND THEATRE

• THE CINEMA

The Cinema, which is part of the huge Shopper's World, in Framingham, Massachusetts, is in the opinion of Ben Schlanger, one of the finest theatres ever constructed. As part of the battery of architects and engineers who had a part in the construction of the theatre, Schlanger did most of his work on the auditorium design.

A patron entering the auditorium is immediately attracted to the 25 by 30 foot RCA Synchro-Screen which has been integrated with purely functional design in such a manner, including control of screen light throughout the area of the audience, that a definite physical scheme is offered for the advancement of motion picture exhibition.

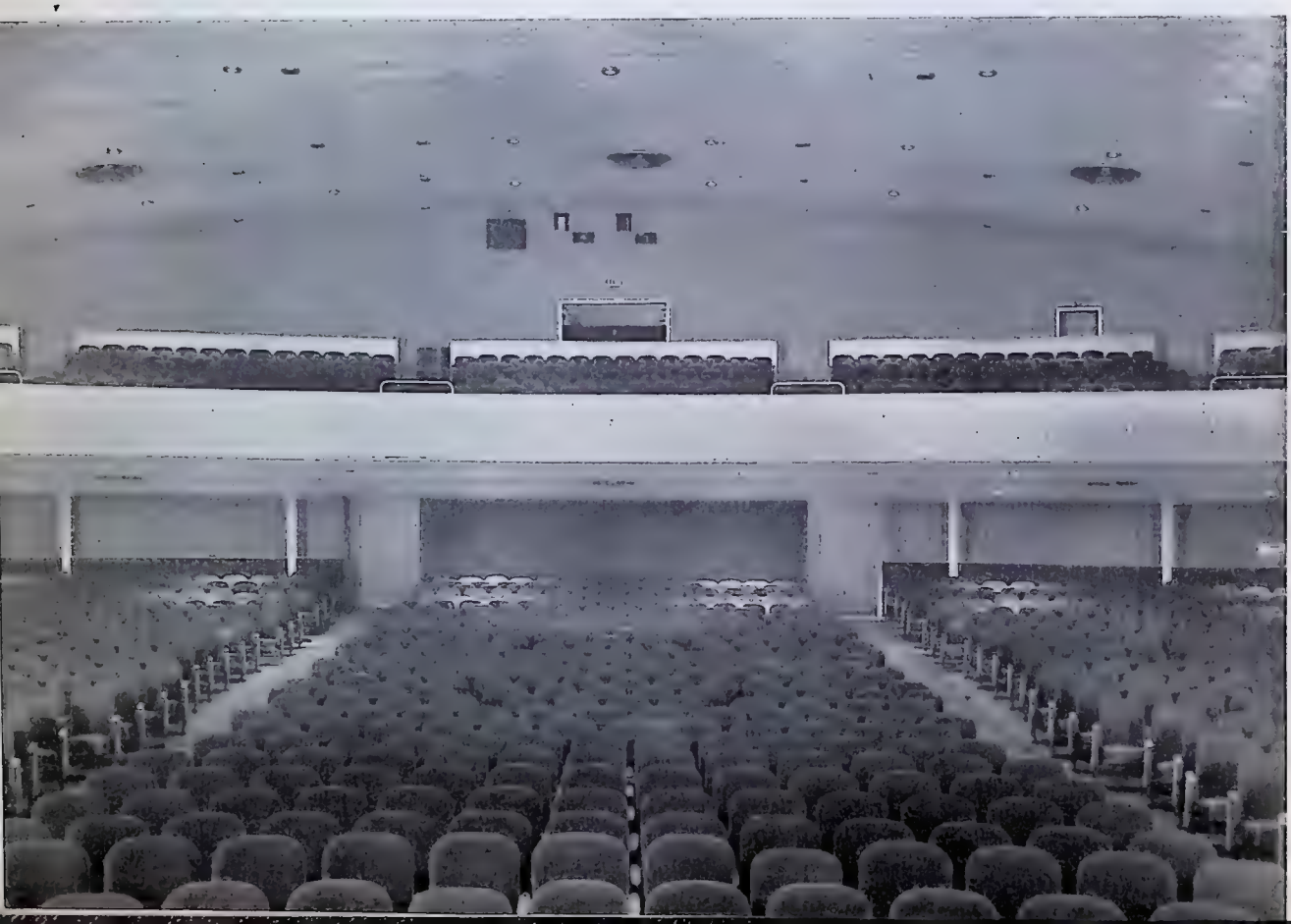
The space problem for approximately 1500 seats was given first consideration. It was found that if this total seating capacity were distributed between a main floor and balcony, sightlines and viewing distance could be best controlled for both good visibility and comfortable seating. The main floor was designed as a dual incline slope, the balcony floor is relatively low and its stepped incline has a very moderate grade. No excavation was necessary under the theatre, thanks to the dual curve of the main floor. Twenty-nine rows of standard push-back chairs were spaced 36 inches apart on the main floor, and nine rows were spaced 38 inches back to back on the balcony. On the main floor, the first row is 26 feet from the screen, on the balcony the last row is only 126 feet away. The proportions of the Cinema are ideal for maximum vision. The seating plan, set by Ben Schlanger, is unconventional and informal. Chairs are placed freely in strict reference to screen sightlines; uniformity of aisle widths was not considered important. As a result, rows of chairs are indented in a staggered pattern along the aisles and there are occasional gaps between chairs within rows. The varying widths of the aisles helps to better distribute incoming and outgoing patrons throughout the theatre. Viewing comfort is combined with a feeling of homelike informality.

The next problem was to find a method whereby varied acoustic materials could be used with the utmost freedom without allowing the resulting pattern to disturb the visual unity of the theatre. Walls and ceilings were first treated with a variety of hard or soft materials ranging from resonant plywood to sound-absorbing fibre glass. Next, this carefully studied acoustic treatment was completely concealed behind a finish surface used in theatres for the first time. The designers worked with manufacturers to successfully produce a lightweight perforated metal panel that would permit sound waves to penetrate its surface, at the same time, provide a sturdy and attractive finish. The outer surfaces of walls, balcony front and ceiling are formed of these panels; the acoustic materials beneath function undisturbed.

This new surfacing material proved essential to both lighting and acoustics in the Cinema. It enables the walls and ceiling of the theatre to act as a light source. During a performance, its saw-toothed surfaces painted light gray, reflect and diffuse light from the screen throughout the theatre. Panel surfaces facing the screen are widest so that light is reflected away from the patron's eyes. This glareless illumination is supplemented by a few downlights over the aisles. The screen itself thus becomes the chief source of theatre illumination, and the only fixed element. The wall and ceiling surfaces of the rest of the theatre seem to recede into unlimited space. It is only during intermissions, with the entire lighting system turned on, that the actual proportions of the theatre become apparent. The crimson upholstery of the chairs and the gray and crimson carpet then supply the warmth and color supplied by the screen itself during performances.

The 30 foot screen dominates the entire theatre. There is no distracting black frame around it, no decorative embellishments, no competitive color schemes. It is set in a curved plaster wall whose special surface has the same light value as the screen itself. At the edge of the screen is a band of translucent plastic which helps to merge screen and wall surfaces. During a performance, the motion picture on view is set in a field of light of its own making, with the character and intensity of that field kept in constant relationship to the action on the screen. This results in an effect of intense realism.

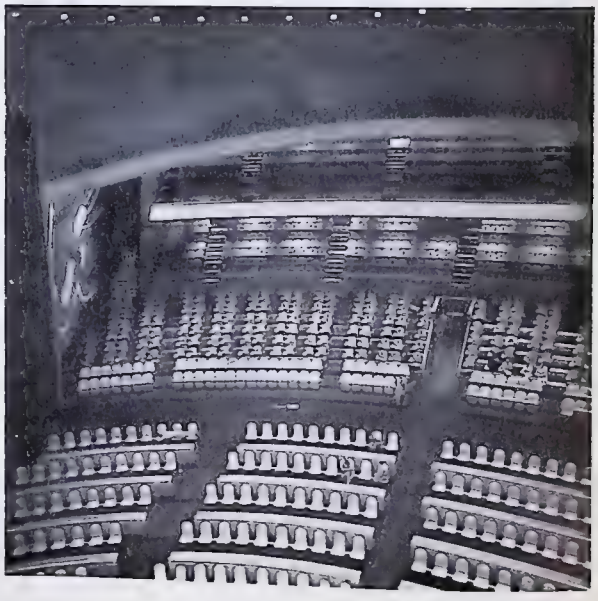
For a detailed story of the Cinema see page 24 of the 1952 edition of THEATRE CATALOG.



CIN E M A

• CONSULTANT TO THE U. N.

The big General Assembly hall of the Headquarters of the United Nations in New York measures 165 by 115 feet and is 75 feet high. A definite separation between delegates and spectators was desirable, as were perfect sight lines and accoustics. In the final result there are 750 seats for the various delegations facing a raised rostrum, 270 seats for observers and 234 seats for the press rising gradually in theatre like fashion to the rear wall. and 800 seats for the public situated in two balconies.



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DESIGN

1953-54

Revolution in Design

Today's Modern Motion Picture Theatre Makes Bold Use of the Latest Concepts of Colors and Interior Design

By BARCLAY ADAMS
Executive Director, American Society of Interior Design

BRIEF: ***The past decade has seen a revolution in the design of theatres . . . both in the interiors and exteriors . . . The huge impersonal cavern-like house of the past is giving way to a more intimate and charming type of theatre . . . making every possible foot of space serve both a utilitarian and decorative function.***

The bold use of colors has been one of the outstanding changes . . . Each type of house . . . the ultra-modern . . . the quiet suburban . . . and the conservative . . . each requires a different color treatment . . . Old theatres . . . with skillful planning . . . a clever theme . . . careful choice of materials and harmonious color coordination . . . can achieve a complete modernization job at a fairly low cost.

This article discusses at length the various uses of color and interior design . . . and offers specific examples.

Theatre design is undergoing a revolution to keep apace of modern architecture and interior design, with, of course, one eye constantly on boxoffice receipts.

The rule is to utilize every available foot of space to advantage. Over-large public areas and over-ornate decoration have given way to a more intimate atmosphere and simple charm. Beauty and glamour, far from being overlooked, become more potent than ever before when wedded to utility. Walls, ceiling, floor, draperies, seating and lighting effects have all been correlated for both eye-appeal and functionalism.

Since the theatre auditorium is usually dimly lit, the real opportunity for a strong impression of color and design is presented in the inner and outer lobby, lounge and foyer. Color alone is one of the greatest factors in setting a mood and creating atmosphere. By skillful use of color, a large theatre can be made to seem more intimate, a small house added prestige and importance.

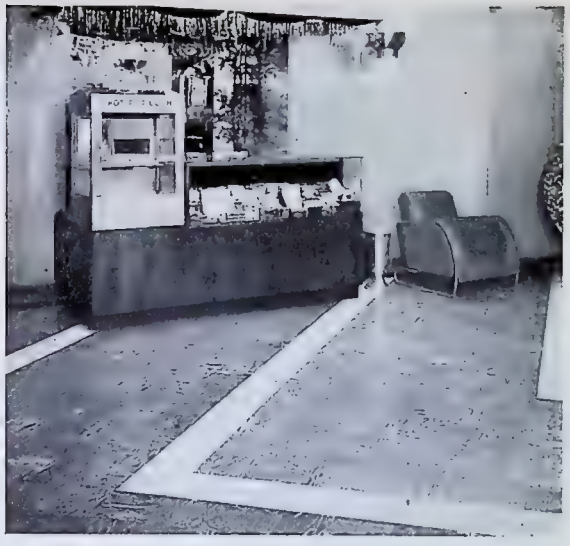
Be Bold With Color

Faber Birren, famous color consultant, stresses the value of color in creating a mood of relaxation and putting the audience in a mood to enjoy the entertainment. Modern color is bold but not faddish, he says; different, but in good taste. Key color for a typical Broadway theatre seeking to create a thrilling or exciting mood would be dynamic Cardinal red. With red as a key color, stimulating color combinations can be developed; for example: flame red, olive gray, silver grey, sand, citron, pearl white; Cardinal red, terra cotta or Toledo red, peach tan, medium green, off-white; Cardinal red, nasturtium orange, pastel green, gun metal gray, white.

By contrast, the mood of a suburban theatre, less tense and more leisurely, might be set by a color plan built around Nature's color, green. Some color combinations keyed to green are: Aspen blue-green, Celadon green, smoky brown, Cardinal red, white, off-white; avocado green, olive, sand beige, nasturtium orange, white; sage green, putty gray, olive, peach, citron yellow, smoky brown.

For the conservative, dignified theatre in traditional design, blue is an appropriate key color. Around it, impressive, dignified color combinations can be built

THE AUDITORIUM OF THE Merben, Philadelphia, stresses brilliant color. The ceiling is midnight blue, with flush downlights. It has no projection molding, the screen being revealed by graceful parting of the 90 foot wide silver and ivory draperies. Walls are birch plywood and acoustical plaster.



LOUNGE OF THE MERBEN has navy blue walls and ceiling. Furnishings are in harmonizing shades of gray upholstery. Floor covering is Napolean gray. Red plaster walls and cream-colored ceiling of inner lobby of Hobart, in Woodside, L. I., are underscored with rubber tile flooring in crisp colors. The gay colors create an air of festivity with a promise of entertainment in the theatre proper. Such careful use of colors pays off at the boxoffice.

Some of these are: Cerulean or sky blue, Aspen blue-green, peach, Cardinal red, off-white; robin's egg blue, Cerulean or sky blue, pewter gray, smoky brown, carnation pink, salmon pink, forest green; Wedgwood blue, deep blue-gray, pebble tan, sand, terra cotta or Toledo red; turquoise blue, citron, off-white, Colonial rose.

The ultra-modern intimate theatre can take its color cue from modern art, with yellow as a key color. Uncluttered interior effects, unpatterned or boldly-patterned ceiling-to-floor draperies, pastel wall colors, blond or natural wood finishes, and dashes of strong color for accent, characterize sophisticated modern design. Color combinations using yellow prominently include: citron yellow, forest green, Celadon green, putty, terra cotta or Toledo red, off-white; buttercup yellow, Cardinal red, olive green, smoky brown, white; buttercup yellow, olive, avocado green, terra cotta or Toledo red, Cardinal red, smoky brown; butter yellow, nasturtium orange, Cardinal red, pebble, smoky brown, white; buttercup yellow, citron, pebble tan, Celadon green, pearl white, charcoal, terra cotta or Toledo red.

SPECIFIC EXAMPLE

Some distinct trends in theatre design and color usage may be illustrated by specific examples of various theatres in which they are apparent—a large theatre in a large city; a good-sized theatre in a smaller city; a medium-sized theatre in the suburbs; and an intimate, ultra-modern theatre in a sophisticated residential district of a metropolis.

The Merben, in Philadelphia, designed by Armand Carroll and William J. Stephenson, A. I. A., makes unique use of simplicity of design in its outer lobby and brilliant color in its auditorium.

Create Atmosphere

The 1900-seat Merben is a two-story structure of contemporary design. Facade is buff-colored Roman brick and blue-green porcelain enamel. The marquee extends right into the 35 x 20 foot outer lobby and the Roman brick of the facade is carried right through to the doors that lead into the theatre. Built-in flower boxes contribute a color accent. On the opposite side is the boxoffice of stainless steel and glass.

Red formica doors leading into the promenade are a bright color accent, and serve the very practical purpose of preventing light from outside entering the auditorium to disturb projection. The promenade runs at right angles to the auditorium and leads to all aisles. Its pale ivory ceiling with bas-relief design of tropical palm trees sculptured in pale ivory runs the full length of the area. A pale green leatherette banquette also runs the full length. Walls on opposite sides are slate blue.

The Merben's rectangular auditorium strongly stresses brilliant color. The ceiling is midnight blue, with flush downlights, and the projection booth at the rear is painted watermelon red. Walls are birch plywood and acoustical plaster in light blue. There is no proscenium molding, the screen being revealed by the graceful parting of 90 foot wide draperies of silver and ivory, indirectly lighted. The narrow platform that forms the stage is floored with Napoleon Gray asphalt tile. Slide-back seats are of leatherette, with backs upholstered in eggplant velour to harmonize with the eggplant floor covering.

The projection booth rises like a huge toadstool on a single 10 foot pedestal in which is concealed the stairway that leads to the booth. The brilliant watermelon red of the booth attracts the eye as one enters. Architects in particular applaud the ingenuity of the designer in deliberately drawing attention to the projection booth, a theatre element usually made as inconspicuous as possible. Structurally, the styling of the booth here saved space and added to the seating capacity of the theatre.

Below the auditorium is a large circular lounge with navy blue walls and ceiling. An indirectly lighted central column rises to the ceiling. Furnishings are in various woods with harmonizing shades of gray upholstery. Floor covering is asphalt tile in Napoleon Gray and Travertine Gray,

THEATRE COLOR COMBINATIONS

Mid-Town Theatre	*Suburban Theatre*	*Conservative Theatre*	*Ultra-Modern Theatre*
Key Color: RED	*Key Color: GREEN*	*Key Color: BLUE*	*Key Color: YELLOW*
Flame Red with olive gray, silver gray, sand, citron, pearl white; Cardinal Red with terra cotta or Toledo Red, peach tan, silver gray, medium green, off-white; and Cardinal Red with nasturtium orange, pastel green, gun metal gray and white.	Aspen - blue Green with Celadon green, smoky brown, Cardinal Red, white, off-white; Avocado green with olive, sand beige, nasturtium orange, white; Sage Green with putty gray, olive, peach, citron yellow, and smoky brown.	Cerulean or Sky Blue with Aspen blue - green, peach, Cardinal Red, off-white; Robin's egg Blue with Cerulean or sky blue, pewter gray, smoky brown, carnation pink, salmon pink, forest green; Wedgwood green; Wedgwood Blue with deep blue-gray, pebble tan, sand, terra cotta or Toledo Red; Turquoise Blue with citron, off-white, Colonial rose.	Citron Yellow with forest green, Celadon green, putty, terra cotta or Toledo Red, off-white; Buttercup Yellow with Cardinal Red, olive green, smoky brown, white; and Buttercup Yellow with olive, terra cotta, pebble tan, charcoal, pearl white, Toledo Red.

COMBINING COMFORT and beauty the lounge of the Beekman, New York, features soft cove lighting, wood paneling of bleached oak and walls paneled with fabric wallpaper. The room is floored in green and the furnishings include sofas, benches, and chairs in various shades to harmonize with the walls. The 26 by 50 foot lounge is reached by descending steps leading from the foyer entrance.

with black tile border. The floor colors and design carry through to the adjoining TV lounge, and the two areas are further unified by a continuation of navy blue as wall and ceiling color. In the spacious powder room, walls are dark green, ceiling is off-white, floor covering is Cardinal red.

Stadium Type

An example of the use of color and the ingenious use of asphalt tile as a wall covering is the Plaza, Stamford, Conn.

The Plaza is a stadium-type house with all of its 1,134 seats on one floor. Seats in the forward or orchestra section are on a normal incline, those in the rear or loge section are sharply elevated, and the two sections separated by a cross-over. Auditorium walls are terra cotta. The dome-shaped ceiling is finished in terra cotta and green. Walls of the loge section are honey yellow, ceiling above is green acoustic plaster. Loge seats are upholstered in gray striped mohair, orchestra seats in brown velour.

Main lounge on the lower level is inviting with terra cotta walls and honey yellow ceiling. Furnishings and draperies are in light shades of gold, green and tan. Floor covering here is Napoleon Gray Kentile, which extends into the adjoining powder room. In the powder room, the Napoleon Gray Kentile is used attractively as a wall covering above a wainscoting of black and yellow. The smart black, yellow and gray color combination is geared to attract the eye of the feminine patron.

MODERNIZATION JOB

Skillful planning, a clever theme, careful choice of materials and harmonious color coordination can achieve a complete modernization at a small cost. An excellent case in point is the Hobart, Woodside, Long Island. It is of the stadium type, seating 600.

Facade is red brick and structural glass boxoffice lead into the foyer. Its green plaster walls and cream-colored ceilings are lighted by both incandescent and fluorescent lighting.

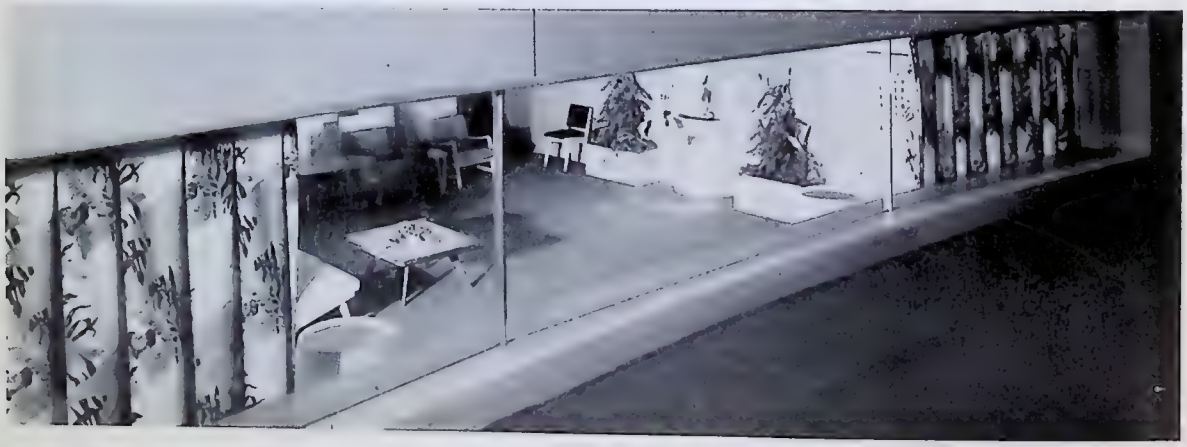
Mahogany doors lead to the inner lobby, where red plaster walls and cream-colored ceiling are underscored with rubber tile floor in crisp colors of Rouge Royal red, St. Amande blue and Pavonazzo cream, in a lively pattern. Patrons are impressed by the soft resilience of the floor, and its gala color creates an air of festivity with a promise of entertainment in the theatre proper.

The ceiling of the rectangular auditorium is cove lighted with fluorescent lights and both ceiling and walls are finished in brown and orange-amber. Stage is draped with fibre glass of a harmonizing orange-amber shade to complement the wall colors.

Walls of Asphalt Tile

A unique feature of the Plaza is the floor and wall treatment in the powder room. Marbleized Sumac red asphalt tile is used as a finish for both floor and walls, thereby accomplishing several purposes. The small area appears larger because of the unified treatment; the marble-like veining of the asphalt tile simulates the effect of genuine marble, currently in great favor as a high-style decorative

LOUNGE window permits view of the screen.



material; and since the Kentile is grease-proof, neither wall nor floor surfaces can be damaged by lipstick, cosmetics, soap and other substances. Also important to management is the fact that re-decorating costs are eliminated, because this wall and floor finish is permanent and will never have to be replaced.

The Beekman

An intimate theatre possessing many features of unusual interest is the Beekman, located on New York's upper East Side in a high-rental residential neighborhood. Its keynote is sophistication.

The unusual is first encountered in the foyer, where, in the absence of a conventional boxoffice, tickets are sold across a five foot desk of Macassar ebony, flanked by marble boxes containing handsome green growing plants. The young lady who dispenses tickets sits out in the open and acts the role of hostess. The foyer is lighted from a white domed ceiling with a red lip and recessed fluorescent panels. Foyer walls are of bleached oak and Italian marble, floor is black terrazzo. Three pairs of brushed stainless steel doors lead into the theatre proper.

Extra Comfort for Patrons

Inside, a gentle ramp leads to the auditorium with its 538 red mohair rocking-chair seats. Here again the Beekman impresses patrons with its extra thoughtfulness for their comfort. Seats are mounted to provide three and a half feet of space between rows. The shell-shaped auditorium is of the stadium type. Gold draperies surround the screen. Walls are of serpentine construction to prevent sound vibrations from the screen. The pastel green walls never require redecoration, because the color has been mixed into the plaster itself. There are cove lights over the main auditorium and vertical cove lights on each side of the screen.

The 26 by 50 foot lounge is reached by descending shallow steps leading down from the foyer entrance. Immediately to the right, at a kidney-shaped Macassar ebony table, a hostess serves coffee or tea. Soft cove lighting, wood paneling of bleached oak and walls paneled with fabric wallpaper invite patrons to relax here. They need not miss any part of the picture, as a 25 by three-and-a-half foot window overlooks the orchestra section of the auditorium permitting a view of the screen and, incidentally, permitting patrons on the cross-over to look down into the lounge.

A fountain of red Lorenzo marble is the focal point of the rear wall of the lounge. It is flanked by plant-boxes, also of marble. The room is floored in green and furnishings include sofas, benches and chairs in various shades of upholstery to harmonize with walls and draperies.

The powder room has turquoise glass fibre draperies, built-in make-up table, green plaster walls on three sides and one wall of mirror.

DESIGNS CHANGE

Color usage and interior planning of the theatres described here exemplify the new changing theatre design and the gradual passing of the era of super-colossal structures of garish decorations.

Appropriate lighting for marquee, foyer, lobby, auditorium, lounge, powder room and stage are the province of an expert on lighting, for problems are vastly different in various areas of the theatre. Illumination must not only provide safety for patrons, and clear visibility of the screen, but must dramatize and effectively bring out fabrics, draperies and furnishings.

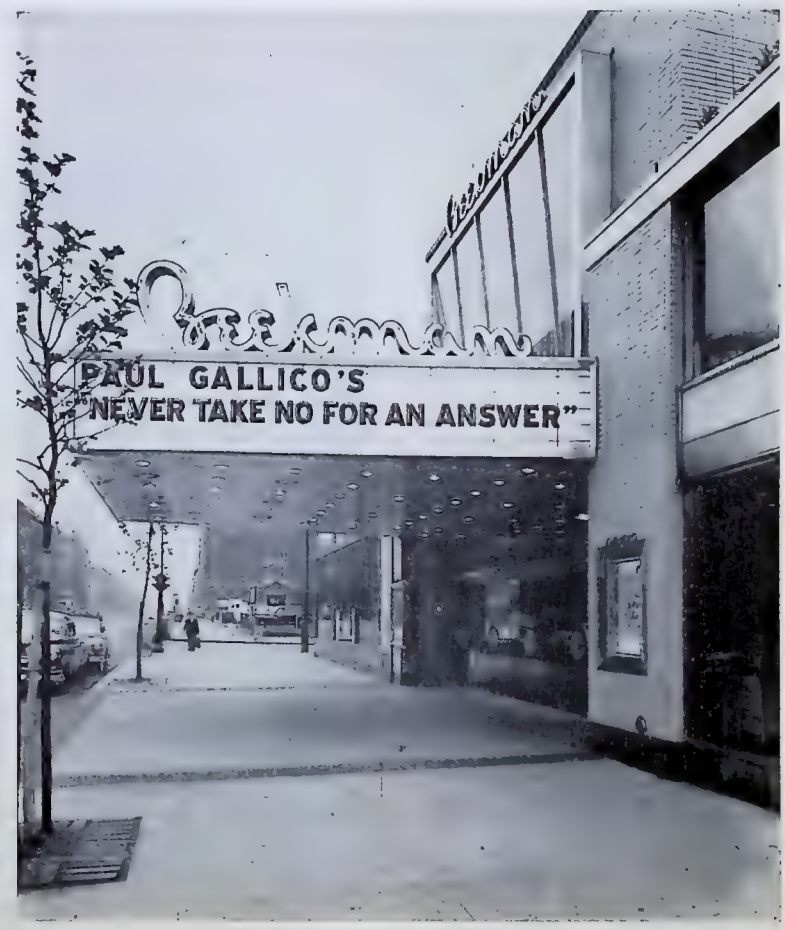
Skillful acoustical treatment of walls and ceilings is essential. Walls that reflect light from the screen are disturbing to the audience. Walls covered with fabrics selected because they kill reflections present a problem in maintenance, for they soil easily.

Choice of suitable flooring is largely dependent upon the activity in any given area of the theatre. Under a marquee and in the outer lobby, terrazzo is an excellent choice. In areas of heavy traffic such an inner lobby, corridor and foyer, asphalt tile provides beauty and utility, with low initial cost and low-cost upkeep. Kencork is another resilient tile notable for its non-slip qualities and excellent acoustical properties. It gives an air of underfoot luxury to a lounge and the rich natural cork coloring blends well with any color scheme. Rubber tile is valued for its high resiliency, its sound-absorbent quality, and its clean, crisp colors.

Of the many types of seating available, the trend in theatres being built today leans toward the push-back or rocking-chair type. Choice of upholstery materials and drapery and curtain fabrics is influenced by the color and style of the theatre's architecture and decor. In a small theatre where one objective is to achieve a spacious look, solid-color hangings in light tones will effect this look best; in the ultra-modern theatre where ornate decoration is absent, a bold-patterned fabric may be used for dramatic contrast with the simplicity of the other elements.

Management's problem, whether concerned with new construction or with modernizing an old theatre, is considerably simplified by entrusting a single authority with over-all planning. Through him can clear design, furnishings, color, lighting and projection. It is his job to correlate and to create a perfect whole. Otherwise lighting may destroy color, decoration ruin projection, and operation have cause to complain of design.

REALIZING THAT first impressions are extremely important, the designers of the Beekman produced a front that is colorful and modern in design. It tells passersby that fine film entertainment is inside.



Current Factors Affecting Theatre Realty

A Survey of how Home Television and other Factors Have Influenced Theatre Real Estate Values in New York City

New inventions throughout the centuries have affected different people in different ways and brought about radical changes in man's way of life. Just as the automobile has produced a revolution in people's shopping habits, currently being felt in the realty world by the mushrooming of large suburban shopping centers challenging the established downtown districts, so television, the miracle of the 20th century, was bound to leave its imprint upon the living habits of urban dwellers and, consequently, to affect the value of properties in which they live, work and amuse themselves.

In a broad way, there have been a number of effects which realty has felt from these changed living habits. But most particularly, television has been in direct competition with the moving picture theatres, important tenants of many New York properties and it is this class of real estate that is most affected.

Theatres Sold, Now For Sale or Vacant

From 1946 to 1951 inclusive there were 105 bona fide sales of theatre realty in New York City. A few were sold at slightly more than their assessed value, but the majority were sold for less. The following list shows the number of sales each year and the relation of assessed value to sales price:

	Number Of Sales	Assessed Value To Sales Price
1946	26	106%
1947	19	104%
1948	15	86%
1949	14	129%
1950	13	126%
1951	18	108%

A check with many realty offices throughout the city, during this survey, revealed a total of only 43 motion picture theatre properties on the market for sale. They include both operating and closed theatres. Many of the operating theatres are being disposed of by the chains in accordance with the "Consent Decree." They are distributed among the boroughs as follows:

Brooklyn	17
Bronx	11
Manhattan	11
Queens	4
TOTAL	43

Although since 1946-7 there have been 92 theatres which are no longer used for theatrical purposes. About half of these are being used for other purposes, but 49 are still entirely vacant. The tabulation by borough follows:

Manhattan	6
Brooklyn	22
Bronx	10
Queens	7
Richmond	4
TOTAL	49

Closed motion picture theatres definitely hurt neighborhood realty values — particularly retail shops on the same block. Shoppers and passers-by are materially reduced and less buying follows. Inquiries in the immediate vicinity of three closed movie houses reveal retailers' opinions that their business declined from 20 per cent to as much as 60 per cent.

Restaurants and ice cream parlors miss the former "after theatre crowd." Other shops find fewer customers looking at their show windows. These conditions will be reflected in rentals and real estate values.

GOOD PICTURE PRODUCT draws good boxoffice even in television saturated New York City.

BRIEF: ***In the last five years . . . since home television has become such an active competitor for the public's entertainment and amusement time . . . TV has been accused of being the primary cause for a large number of theatre closings.***

With seven channels to select from . . . the citizens of New York City have probably had more opportunities to view home TV than any other group in the nation . . . It follows . . . therefore . . . that here would be the place where television would have its greatest influence on motion picture theatres . . . This survey . . . which was made by Real Estate Forum . . . a leading real estate trade publication . . . offers some specific examples of what TV has done to theatre real estate values in the nation's largest city.

Although this survey was made before current three-dimensional developments brought about a surge of interest and attendance it is heartening to see that when the TV threat was at its peak . . . the situation in theatre closings was never as near the disaster level that so many . . . both in and out of the industry . . . were talking about . . . Although inroads have been made the picture is by no means hopeless.

NOTE: *This article was reprinted from the Real Estate Forum by special permission of the publisher, Richard L. Stanley.*

Theatre Conversions

Since 1946-7 a total of 43 theatres have been converted for other than theatrical uses. Nearly half are in the Borough of Manhattan, with another third in Brooklyn and the balance scattered among Bronx, Queens and Richmond as follows:

Manhattan	20
Brooklyn	14
Bronx	5
Queens	2
Richmond	2
TOTAL	43

At the present moment, it is reported by people close to the theatre situation, that quite a few movie theatres in the Bronx are in line for conversion. These reports indicate that the movie business in many parts of the Bronx has been particularly hard hit and, hence, the plans for new uses for the theatres.

Apparently, theatre properties lend themselves to many diverse uses, of which the most common is retail stores. Some of the present theatres were formerly commercial buildings and thus it is not illogical for them to return to their previous function.

One of the outstanding instances of theatre conversion was provided in 1949 when the Joseph Platzner Company received the award for the most ingenious transaction consummated in the Borough of the Bronx during that year. The Platzner deal involved the Blenheim Theatre, at Park Avenue and 169th Street, which was built about thirty-five years ago by Benenson Brothers. Until seven years ago, it was operated successfully as a theatre, but at that time passed into the hands of Jake LaMotta, former middleweeight boxing champion, for use as a sports arena. LaMotta installed a ring and televised fights, but apparently did not do too well and put the property on the market for sale. Platzner conceived a new use for the building and persuaded the Bronx County News Corporation, newspaper distributors, that it would be an ideally suited structure for their business as a distribution point for newspapers. The newspaper company took a long term lease on the property, running to over a hundred thousand dollars, and based on this lease, Platzner was able to make a sale to Bridge Motors, Inc., Dodge and Plymouth dealers, on a strictly investment basis.

Another important and interesting theatre conversion involved Loew's Boston Road in the Bronx, which was purchased by the Emerald Retail Grocers Association, Inc., a cooperative grocery chain, for their own use as a warehouse. The building had a 14,000 sq. ft. theatre area with a 35 foot ceiling and the grocery company levelled the floor, installed loading platforms and overhead doors and, at a reported cost of $35,000, altered the front lobby into a market which they were able to lease out.

Other Interesting Conversions

The Ritz, on East 180th Street, has been converted for candy manufacturing at a reported cost of $25,000. This theatre is located in a row of taxpayers and has been shut down for a year, during which time it suffered serious damage from vandalism. Last May, the theatre property was leased for ten years to the Tasty Candy, Inc., manufacturers of lollypops for several large grocery chains. The owner invested a reported $30,000 to outfit the theatre as a factory. The work included breaking through the 18 inch walls to create windows, installation of lavatories, etc.

Other conversions include the former Orient Theatre, at 111-13 West 125th Street, which has been leased by Jackie Robinson, Brooklyn Dodger third baseman, for alteration into a 2-story department store for sale of men's clothing, haberdashery, hats, shoes, jewelry, television sets and electrical appliances.

The Vanderbilt, on West 48th Street, has been sold by the American Broadcasting Company to Irving Maidman, well known realty investor and operator, and plans call for converting it into a garage for about 180 automobiles. Maidman estimates, and is currently proceeding with the necessary work to change its character into a market or a bowling alley or some such commercial enterprise.

The Parkside, on Flatbush Avenue, Brooklyn, is being converted into an A & P supermarket, The RKO Shore Road in Brooklyn was converted into a retail store for Crawford Clothes. The Empire, at 860-74 Westchester Avenue, the Bronx, has been purchased for conversion to store use. The Windsor, one of the Brandt chain, in the East Bronx, is shortly to be auctioned off and will undoubtedly be put to some other function.

TV'S THREAT

The American people have long been movie enthusiasts and their patronage of the motion picture theatre, even at the rate of 40,000,000 a week on the average in recent years, keeps the movie industry high in the ranks of the nation's big business. The industry employs almost a quarter of a million people and still grosses over a billion dollars annually. It has weathered many storms in its 50 years, but TV represents the most serious one to date.

Let's see what makes TV a threat to the motion picture theatre. First, we must admit that TV serves a vast audience today, and is an instrument of screen entertainment. It is attempting to forge ahead at a terrific pace. Some of the nation's best brains in engineering are devoted to its constant improvement. Families at all income levels have become devotees of TV. It is believed that almost 10 per cent of the low income families living in public housing projects have TV sets. Yet, this baby in screen entertainment is only five years old. The first 1,000,000 sets were installed in 1948 throughout the United States. Today, it is estimated that there are 18,711,800 TV sets in use. And the industry hopes to have 55,000,000 sets in operation by the end of 1955. If that is realized, TV prophets say, TV would become the undisputed master of the screen entertainment field. Color TV and other innovations are expected soon. In the meantime, the television networks and stations point with pride to a profit of $41,600,000 for 1951 after showing a loss of $9,200,000 in 1950.

Now, let's turn to TV's local level. How are things shaping up in New York City? In 1948, there were only about 100,000 TV sets in use here; now the five boroughs are believed to have approximately 1,500,000 TV sets and the Metropolitan area 3,000,000. The aim is to have 2,000,000 TV sets in use in New York City by the end of 1955. It is estimated that 69.5 per cent of New York City's families now have TV in their homes and it is believed that 90 per cent of this city's families may have TV sets by the end of 1955, although this figure may prove to be a bit optimistic.

Theatre Attendance 1946-1951

According to records maintained by the Metropolitan Motion Picture Association, New York City has 592 motion picture theatres. 191 are in Manhattan, 203 in Brooklyn, 100 in Queens, 84 in the Bronx and 14 in Staten Island. Although accurate figures for average weekly attendance at these theatres, with approximately 700,000 seats, are not available, information pieced together from a number of sources seems to indicate a peak attendance in 1946 of approximately 3,500,000 weekly, which figure declined in 1951 to about 2,200,000 weekly. However, a spot check with some movie house owners reveal attendance at some have declined very slightly since 1946, while others have shown declines up to 50 per cent. The 14 Staten Island movie houses claimed a borough-wide decline of 35 per cent in 1951 from the previous year alone. Attendance during 1952 may show a considerable improvement—possibly hitting an average of about 2,500,000 weekly for the entire city.

Valuations of Theatre Real Estate

In attempting to learn of changes in the total number of theatres and their assessed valuation between the 1947-8 fiscal period and that of 1951-2, we have accepted the data of the Tax Department which, however, includes legitimate theatres, some night clubs, etc.

	Number 1947/8	Number 1951/2
Manhattan	243	234
Brooklyn	230	230
Bronx	99	92
Queens	100	104
Richmond	17	14
TOTAL	689	674

For these theatre properties, which include such office buildings as Radio City, Loew's, etc., the total assessed valuation for the two periods were as follows:

	Assessed Value: 1947/8	Assessed Value: 1951/2
Manhattan	$114,840,585	$104,430,000
Brooklyn	41,054,195	38,705,200
Bronx	22,254,100	22,506,000
Queens	19,183,325	21,056,000
Richmond	1,696,500	1,735,500
TOTAL	$199,028,705	$188,432,700

It is significant to note that whereas the total assessed valuations of all property in the five boroughs increased approximately 10 per cent during 1947-8 to 1951-2, the assessment figures for theatre properties has dropped five per-

THEATRES SUCH AS THE FINE ARTS in New York were built at the height of television growth.

cent during the same period. At the same time, an examination of 54 movie houses, without stores, in Manhattan shows 37 with a higher valuation for 1952-3 than for 1947-8. Yet, only 22 of these theatres sought lower assessed valuations during the April 1952 hearings of the Tax Commission and only four reductions were actually granted. Another straw in the wind, indicative of the trend of theatre properties, is the number of applications filed with the Tax Department for reduction of the assessed valuations of theatre properties. This figure has risen from 215 such applications in 1946-7 to 326 in 1952-3, indicating a dissatisfaction with their assessed valuations by the owners of nearly half of all theatre properties (using the Tax Department's definition which includes legitimate theatres, etc.).

APPLICATIONS FILED WITH TAX DEPARTMENT FOR REDUCTION OF ASSESSED VALUE OF THEATRE PROPERTY

Borough	1946-7	1952-3
Manhattan	90	105
Brooklyn	50	106
Bronx	45	49
Queens	30	60
TOTAL	215	326

Higher Realty Taxes

When motion picture theatre property owners complain about rising costs beyond their control in the past five years, they can certainly cite the increase in the city's real estate taxes. A Manhattan borough study of taxes in 1947-8 vs. 1952-3 reveal many theatre properties, including those without stores or second floor offices, paying increases from 10 per cent to 50 per cent. Here are a few examples:

	Realty Taxes 1947-8	Realty Taxes 1952-3
214 East 14th St. .	$5,869.50	$7,966.50
52 West 8th St. ..	6,772.50	7,966.50
823 Third Ave.	1,685.60	2,203.50
1185 First Ave. ..	1,565.20	2,067.90
350 East 72nd St..	2,046.80	3,051.00

Only three motion picture theatres in all Manhattan, this study shows, are in arrears on city realty taxes. One is on the lower east side, one on the midtown west side and one in West Harlem. The rest are paid-up. A partial check in other boroughs of the city shows few theatres in arrears.

Although almost 10 per cent of Manhattan's motion picture theatre property won lower assessed valuations in recent years in actions before the Supreme Court or the Tri-Board, for some reason assessors seem to retain the valuations at the original level. One example is the movie house at 171-5 Eighth Avenue, between 18th and 19th Streets. For the past four years the valuation was set at $215,000. Yet, the reduction granted for each of these four years (1948-9 to 1951-2) was $45,000, bringing the assessed valuation down to $170,000. However, the 1952-3 assessed valuation is still at $215,000. A similar case is noted at 76 Greenwich Avenue. Here the owner won a reduction in valuation from $500,000 to $435,000 for three years (1948-9 to 1950-1), yet the 1952-3 assessed value is continued at $500,000. The same is true at 2700 Broadway where a valuation of $520,000 for the past four years was reduced to $450,000. Here too the 1952-3 assessed value is continued at the old figure, namely $520,000.

Little Mortgage Trouble Immediately Ahead for the Movies

A check with leading lending institutions holding mortgages on 58 operating theatres throughout the city reveal no signs of danger, except in two cases. One movie house is facing foreclosure and the other may be faced with foreclosure within the next year. An official of one of the city's largest savings banks reported that all of his institution's mortgages on motion picture theatres are in good shape. He added that they have been well amortized years ago and interest payments are being met promptly. He seemed proud of the fact that some movie house owners have installed air-conditioning systems at considerable cost without increasing their mortgages.

There are approximately 1200 retail shops located within motion picture theatre buildings throughout New York City. And the occupancy of these shops, even during the past six months, are generally regarded as better than other retail shops in the same general area. The drawing power of the motion picture theatre is still a dominant factor in the rental value of the retails shops. Inquiries made among many retailers in movie house property during this study, reveal no anxiety to move out of such premises, and into available stores. It should also be noted that there are more chain store branches of retail establishments in motion picture theatre buildings today, than five years ago. These facts should tend to dispel the feeling that any widespread collapse faces the motion picture theatres of New York City. It is a good omen for realty owners in general of movie house property.

CONCLUSIONS

From the foregoing survey, it is apparent that motion picture property has suffered to some degree during the last five years. Unquestionably television has had its influence. Aside from the effects directly discernable in the figures for assessed valuations, theatres vacated, theatres converted to other uses, sales prices, etc., there are other indirect rsults of the new entertainment medium which do not lend themselves to precise evaluation. There is the claim by merchants that women purchase fewer dresses because they do not "dress up" to view television as they do for movie-going. On the other hand, there was a minor boomlet in certain types of furniture and household accessories for use in connection with viewing television. On the whole, people seem to have become more "home conscious" as a result of television, with potential benefits to retail stores selling household furnishings.

To sum it up, it appears that the number of motion picture theatres should stabilize close to the 500 figure for the five boroughs of New York City. In certain locations, closed theatres will be harmful to the business of neighborhood shops until the theatres covert into their useful purposes. Those that have been closed, or are headed for closing, are, for the most part, located in strongly competitive areas. For the sake of the neighborhoods involved, it would be well for real estate men to convert closed theatres.

A Convertible Theatre

England's First Post-War Theatre was so Constructed That it Can Easily be Converted into a Factory Site

BRIEF: ***It is rather interesting that the first motion picture theatre to be built in England since the end of the war is one that can be converted into a two story factory building when the need arises . . . Constructed in an industrial area . . . with an expanding population . . . the authorities recognized the need for film entertainment . . . The result is the Regal . . . a theatre with a dual personality . . . While the construction of such a house is proper . . . considering the vital need in Great Britain . . . the Editors of THEATRE CATALOG are sure that it will never become necessary for theatres in general to be constructed with the thought of converting them into something else.***

The distinction of being the first theatre to be designed and built in England since the end of World War II falls to the Regal, Harlow New Town, Essex.

The most interesting feature of this British house is the fact that it was so designed and constructed that while it can provide satisfactory facilities for the showing of films, it can also easily and quickly be converted into a factory when the need arises. Still bent under the heavy demands of her austerity program, and with the explosive global political and economic situation, it is not suprising that this country's initial post-war attempt at theatre construcion should have a dual purpose.

Work on the Regal was completed last year and took less than five months to build. The building which was designed in the offices of the Harlow Development Corporation, was then acoustically treated, decorated, and the sound and projection apparatus, seating, carpeting and other necessary equipment installed.

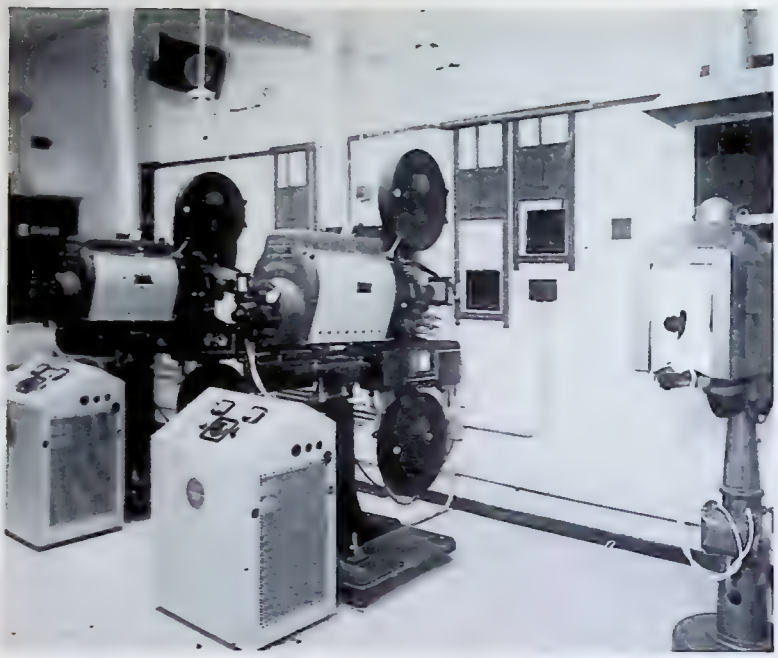
To facilitate conversion of the building to a factory when required, the design basically consists of a production space with a single-span roof of corrugated asbestos-cement sheeting — now serving as the auditorium — fronted by a two story office block, of which the ground floor now forms the foyer, offices and lavatory accommodations. The first floor houses the projection facilities and staff restrooms. It follows the basic design of two story factory buildings constructed in that particular area.

Construction is of load-bearing brick walls with precast concrete beam floors and roofs to the two story block, and steel trusses designed from stock steel sections forming the roof of the auditorium. The entrance front is of six-inch hollow clay blocks faced with fluted asbestos-cement, and has a plaster ceiling on expanded steel lathing. This ceiling can be removed upon conversion and the roof sheeting and purlins are designed to facilitate the insertion of roof glazing. Windows may be inserted in the cavity brick panel walls.

Heating the two story block is by radiators with low-pressure hot water, and of the auditorium by warmed and washed air on a Plenum system. Full secondary lighting is installed.

Acoustic treatment consists of the introduction of Paxtile sound tiles built in panels around the auditorium. The floor has been treated with a plastic material containing wood fiber.

THE REGAL was designed as a temporary measure and therefore it was so constructed that the theatre may be quickly turned into a factory.



SPACIOUS projection booth is equipped by RCA with the latest equipment available. The rewind room is also fitted with a modern rewind bench, film storage cabinets and large cheery window.

The foyer is 480 square feet and is entered from the forecourt by three pairs of swing doors. Pairs of doors on each side of the central boxoffice lead to the auditorium, which is 4,600 square feet, and has a raking floor. A splayed projection at the rear of the stage forms the horn chamber.

The projection area consists of a spacious projection booth, a rewind room, a switch room, and rest room.

Standards of planning, construction and equipment necessarily comply with the requirements set up for the construction of a permanent theatre.

In view of the temporary nature of the 690-seater, the decorative treatment is necessarily utilitarian, but attractive nevertheless. The focal point of the interior decorative scheme is the proscenium treated with a fluted effect in gold and deep rose with matching border.

The auditorium was treated with sprayed plastic prior to the application of decorative colorings, the basic tint being blush pink with an overspatter abstract design in darker tones. The woodwork is rich, deep maroon with lavender and gold applied to the molding.

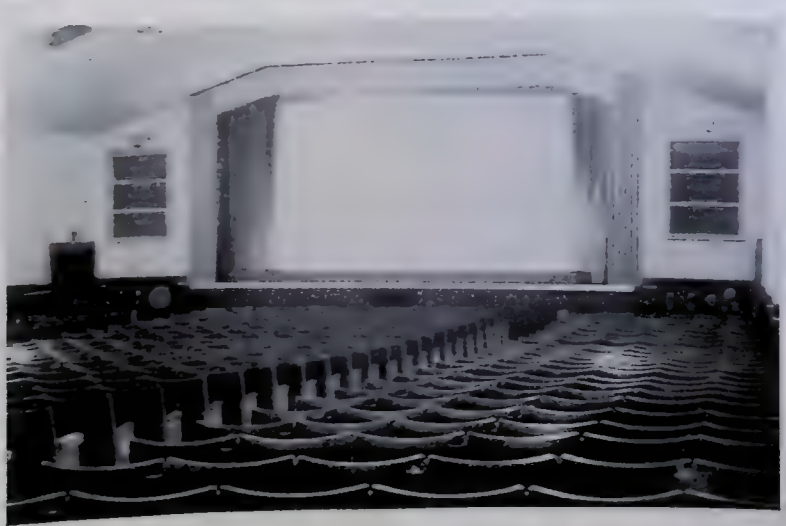
The entrance hall is treated in a similar fashion with a shaded spatter treatment above the skirtings in deep rose. The boxoffice and doors are in a pastel shade.

An inspection of the area set aside for the sound and projection equipment belies the fact that this is a temporary arrangement. In addition to the sound equipment, all the projection and auxiliary equipment was supplied by RCA. This includes the latest RCA sound reproducer with double turntable non-synchronous unit, Ross projectors fitted with Super Rosskot lenses, Monarc arc lamps, single-phase rectifiers, a perforated mat sound screen, Premier all-purpose projector, fire shutters, spools, spool cabinet and rewind bench.

Display accessories consist of two standard sized exterior illuminated stainless steel frames, each of which exhibits a three foot by two and a half foot illustrated panel, and six places for stills. The illustrated panel is floodlit and the stills are illumniated from the rear. Interior installations include a number of frames for displaying illustrated panels and stills, and an interchangeable letter category indicator and indicator clock in the hall.

Although it seems unlikely that this style of theatre construction will ever become common, the Regal is interesting in so far as it demonstrates the importance of film entertainment. Despite all the restrictions and hardships in post-war Great Britain, the value of supplying the people with means of getting motion picture entertainment, was recognized. According to the present plans, the Regal is expected to be kept in operation for seven years, and after that time will be converted into a factory. It is expected that by that time a permanent theatre will have been built.

THE INTERIOR TREATMENT of the Regal has been kept to the simplest form in consideration of the future role of the building. The proscenium is treated with a fluted effect in gold and rose.



ACKNOWLEDGMENT

The Editors of THEATRE CATALOG wish to express their thanks and appreciation to Alex Martin and the Ideal Kinema for supplying the information and photographs used in this article.

Swank Indian Preview Theatre

This Beautifully Designed Screening Room is an Example Of Taste and Style Combined to Insure Pleasant Viewing

BRIEF: *A private screening room has a number of varied and important uses . . . It is there that the press go to evaluate the worth of a film . . . trade shows are held there . . . often important personages are brought to preview theatres to decide whether or not to lend their names and support to a motion picture . . . A room that is attractively decorated does much to get the viewer into the proper frame of mind in which to determine the real quality of a film . . . rather than being annoyed by unpleasant and uncomfortable surroundings.*

. . . An example of what can be done to make a screening room a place of beauty . . . as well as being functional . . . is the Embassy Preview Theatre, Bombay, India . . . Making use of the finest materials and equipment the Embassy embodies all the finest qualities of a first class art house . . . and lends an air of elegance and dignity to whatever is presented there.

Although many are not consciously aware of it private screening rooms play an important role in the motion picture industry. No manufacturer of consumer goods, after spending a large sum for a new line, would think of introducing it to prospective buyers in a shabby showroom. This applies as much to a film distributor as it does to a manufacturer of women's dresses. In actuality a preview theatre is a showroom in which new products are presented to various interested parties.

Importance of Screening Room

When a film is ready to be shown to the public the screening room is the place where the representatives of the press are invited to see the picture and decide whether or not they will recommend it to their readers. The preview theatre is the site for all-important industry trade showings, and therefore the place where the decision to buy and book a film is often made. In many instances the success or failure of a picture will hinge on a publicity campaign and the support of certain groups and organizations. Once again the preview theatre is usually the place where representatives of these groups are brought to evaluate and decide whether or not they will give their support. There are indeed many and varied uses to which these rooms are put, in addition to the obvious one of watching a film for personal enjoyment in comfort.

Psychology of Viewing

It would be both false and dishonest to assume that a mediocre motion picture will absorb some of the beauty of a well appointed screening room, and become something that it is not. However, all of us, including hard boiled newspaper critics, are human enough to be affected by our surroundings. Almost any housewife would be able to tell you that no matter how wonderfully a dish is prepared it loses something if it is not served on a table properly set to show the food off to the best advantage. The same holds equally true for the presentation of a film.

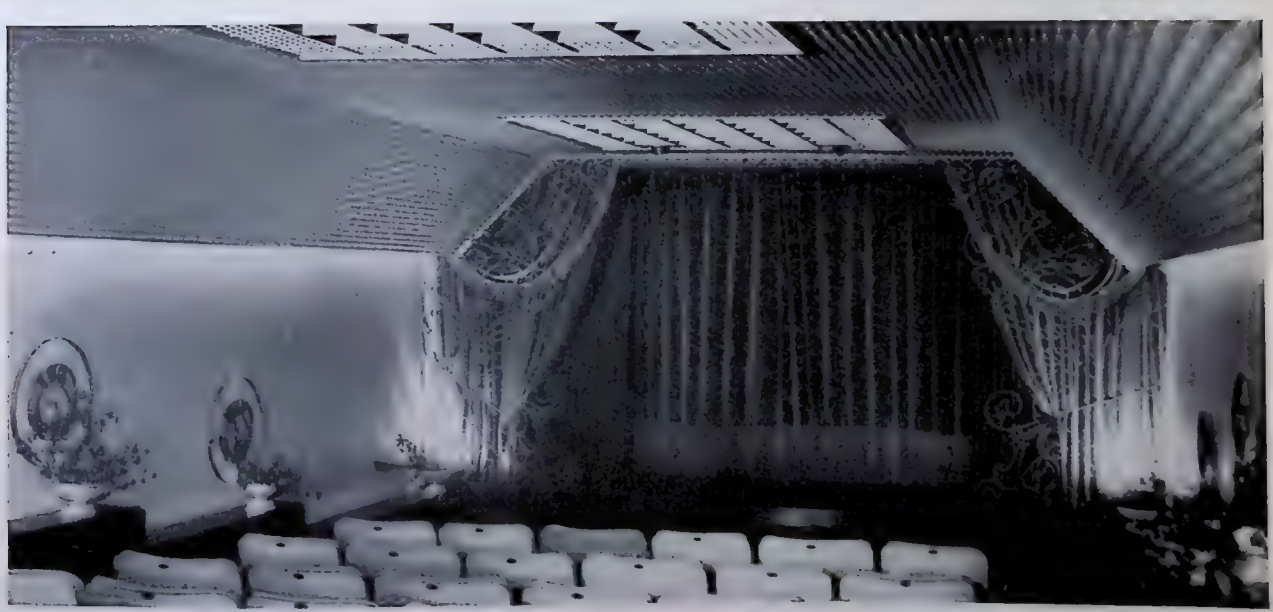
When a film is shown in a screening room that is dingy, cramped and uncomfortable it is only natural that the viewers are distracted, irritated and unable to give their full attention to what is being presented on the screen. Under such circumstances even the most excellent of pictures would suffer. Conversely, when a critic or prospective buyer enters a room that creates an atmosphere of dignity and quality he or she can not help but to be put in a better frame of mind, and therefore more receptive to what is being offered.

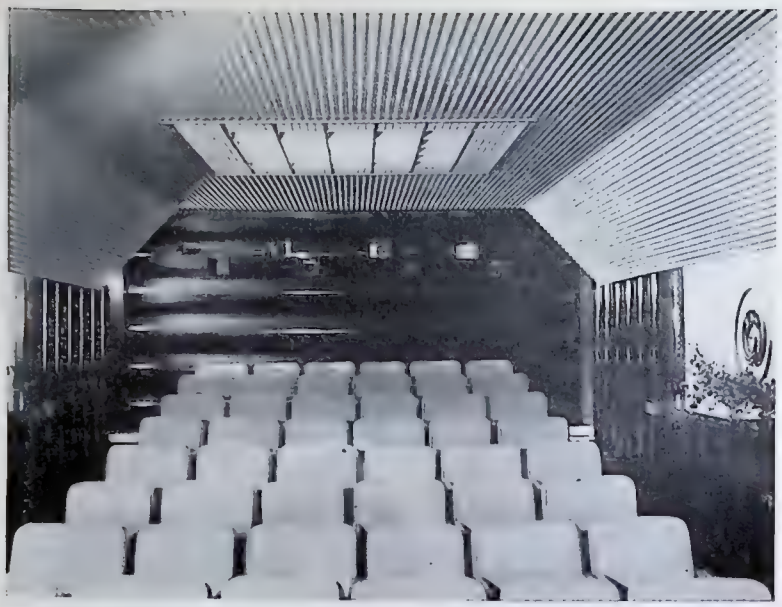
THE EMBASSY

A glowing example of what can be done to make the preview theatre a place that is both functional and the ultimate in style and comfort may be found in the Embassy Preview Theatre maintained by Photophone Equipment Ltd., the Simplex Projector distributor in Bombay, India.

Making use of the finest and most modern equipment and designs, the Embassy creates an air of elegance and dignity that is impressed upon the viewer the moment he enters. The auditorium is completely air-conditioned, and is arranged to seat 48 persons in comfort. The floral iron grills on the stage and

GIVEN LAVISH DECORATIVE TREATMENT, the auditorium of the Embassy Preview Theatre features latest equipment for projection, lighting, and seating.





ABOVE: ANOTHER VIEW of the auditorium showing the undulated wood treatment for improved acoustics. BELOW: The tastefully appointed lounge offers comfortable seating arrangements. The passage leading from lounge is well lit by six circular lights with plastic grills. Decor is modern throughout.

on the walls are painted in flame red and coated with fluorescent paint. What this does is to create a Black Light effect that does much to help create and maintain the moods.

The ceiling is made of plaster of Paris, and when it is viewed from the entrance it gives the illusion that it is suspended from the top. The grills in the center are for lighting and air-conditioning. Additional lighting is provided from either sides of the suspended ceiling. Fully carpeted in a rich deep shade of red, the theatre also has velvet curtains to match. The roomy seats are 24-inches wide and are manufactured in India. They are covered with grey rexine, and Indian made Goodyear Plioform cushioning material is used. To add to the distinctive decoration of the auditorium, marble vases and fresh flowers and leaves are also in evidence.

Lounge

The lounge did not escape the eye of the Embassy's designer, and it too shows the results of planning with an emphasis on beauty as well as practicability. Two roomy sectional couches with attractive upholstery provide the needed seats. The walls are painted in an easy-on-the-eyes shade of grey. Mounted on the wall over one of the couches is a pink mirror on which is embossed the figure of Lady Godiva in a contrasting red plastic. The color scheme is completed by the bright green carpet.

In the passage leading from the lounge to the auditorium there is a counter behind which is a small soda fountain placed there for the convenience and pleasure of the guests. Carrying out the same decorative theme as the lounge, the passageway is painted in a deep shade of grey. A mirror with an ivory frame and two ivory statues are mounted on one of the walls. The floor is covered with green linoleum. Six circular lights with a special grill provide effective lighting.

Since the Embassy Preview is operated by the Simplex Projector distributors it is only to be expected that the theatre has the latest 35mm and 16mm projection equipment installed.

CONCLUSION

As mentioned before preview screening rooms that are attractively designed and equipped will not convert a bad film into a good one. However, a well appointed screening room does help to prepare a viewer for fine entertainment. The Embassy Preview Theatre represents a fine example of what can be done to make the private showing of films an interesting and entertaining experience for the audience from the moment they enter the theatre. The Embassy also provides an opportunity to see a fine example of Indian design and interior decoration. A similar treatment on a larger scale would make for a beautiful and intimate art house.

In many respects the screening room and the art house are alike. Like the preview theatre, the art house is designed to handle fairly small crowds. Another point of comparison is that both usually attempt to present films in a setting and atmosphere that will add to the enjoyment of the audience. It would not be strange then to use the Embassy as an art house design.

CONSTRUCTION and MATERIALS

1953-54

Metal-Faced Masonry

A New Way of Attaching Copper and Brass Facings To Bricks and Tiles Points to a Variety of Uses

BRIEF: ***A wide range of theatrical decoration possibilities are suggested by a new method of bonding copper, brass, and other metals to masonry . . . A special adhesive cement is poured into a mold which holds a metal shell . . . and the finished product is a brick or tile . . . capped with a handsome metal surface . . . To be available in a large variety of designs and finishes . . . the metal facings would impart a luxurious note to the decorative scheme of any theatre.***

Now that government restrictions on the use of metals has been eased somewhat . . . THEATRE CATALOG offers this report about a potentially valuable innovation in decorative materials in keeping with its policy of supplying complete theatre information.

An ingenious new technique of applying copper, brass, bronze or chromium facings to masonry has been developed by a California contractor, and suggests a wide range of decorative possibilities to be explored by theatre designers now that government restrictions on the use of strategic metals have been relaxed somewhat.

In the process developed by John Boyd, a Los Angeles tile and masonry contractor, facings of copper, brass, bronze, and other metals can be applied to brick and tile in a variety of textures and finishes, on specially fabricated brick and tile of standard shapes and sizes.

For centuries, various metals have been used in exterior and interior decorative schemes, and the fastening of metal to masonry has always posed difficulties. In the process developed by Boyd, the metal is solidly bonded to the specially fabricated brick or tile, and becomes an integral part of the casted masonry unit.

How the Units Are Made

The body of the metal-faced masonry unit consists of a special cement mixture which contains a porosity bond and volcanic ash, both of which lend lightness of weight and good adhesive qualities to the casted units. When dried, the casted unit will absorb about four per cent of its weight in water, thus assuring a definite and permanent bonding between the masonry unit and mortar.

The cement is poured into a mold that holds the copper, brass or bronze shell and is contained between metal separators. As the cement dries, the metal becomes securely locked to the brick or tile, which emerges from the mold with a channel that provides an interlocking effect when laid in mortar.

The metal used for facing these units is generally of 26-gauge thickness, but thicker material will be available on special order. In the manufacture of the metal-faced masonry units, the pressed shells are back-drafted approximately one-quarter inch on all sides. After the metal shells are set in the mold, and the cement is poured and allowed to harden, the metal surface is buffed, polished, sprayed with a coat of transparent enamel to protect against discoloration, and the unit is baked in an oven. The enamel can be removed with a special chemical solution, and the metal facing can be refinished or re-textured with a new design, if desired. Should the metal facing become scratched after installation, it can be easily refinished on the job.

There is practically no limit to the variety of embossed designs that may be applied to the metal facings. It will become a simple matter for any type of metal to be applied to masonry of standard sizes or shapes or, on special order,

THE BEAUTY OF A DECORATIVE NICHE in foyer or lounge can be tastefully enhanced by imaginative use of several contrasting facings and textures. The joining mortar can be colored to blend.

to obtain irregular shapes and sizes of metal-faced bricks or tiles for special needs. Fluted and reeded facings will be available for building rounded columns or corners.

Licensed contractor for the manufacture of the metal-faced units is Metal Face Brick and Tile, Inc., of Los Angeles, with a factory in Santa Monica, Calif. A patent for the process is pending.

To date, the company has not furnished any of the units for installation at theatres, although it has supplied metal-capped bricks and tiles for trim and facings in business offices, restaurants, shops, and private homes.

Mortar Joints

Most installations consist of copper or brass facings with an alternating design of hammered and plain surfaces, and mortar tinted a complementary shade. A joint of dark green mortar is the most popular with brass, with yellow running a close second. Dark green or Van Dyke brown mortar forms an attractive joint with copper facings. With antique copper facings, dark brown, black, and off-white joints are used to advantage.

Hammered chrome on brass, with a stainless steel quarter-round trim, affords extremely luxurious effects which are particularly suited to powder rooms. The hammered chrome facing acts somewhat like a mirror in picking up surrounding color and light, but does not reflect distracting images because the hammered indentations prevent direct refraction of light waves. With hammered chrome, plain chrome, and stainless steel facings, a waterproof tile cement is generally used for joints.

CLOSE-UP OF A POWDER ROOM CORNER in which hammered metal facing was used.

For Theatre Use

The characteristics of metal-faced brick or tile, either in plain or handwrought design, blend very well with modern color schemes and modern building materials, and offer the tasteful but sumptuous glamour required of theatre decoration.

Before government regulations sharply curtailed the use of strategic metals, metal-facings were widely used in California for exterior and interiors of many types of buildings, for utilitarian as well as decorative uses. Still on the drawing boards are many plans for business buildings and homes in which architects have specified metal-faced brick for the exteriors and interiors.

It would be well for theatre designers to keep this interesting new development in mind, and consider metal-surfaced masonry for fronts, walls, lobbies, lounges, and powder rooms in their plans for tomorrow. There is no questioning its dramatic possiblities, and the specializing architect will no doubt innovate many new details and applications that are now undreamed of.

For Drive-Ins

While gases and fumes native to industrial areas, and their discoloration and oxidization of some bright metal surfaces may limit the use of such metal-surfaced masonry in some sections, most drive-in theatres will find its bright reflective nature has real advantages. For entrance driveway markers, roadway sign pylons, and other accent points, the dramatic impact under daytime or night lighting, will force attention. And no painting, cleaning or other maintenance should be necessary.

Smart, modern confection stands, and sparkling metal boxoffices, needing no seasonal maintenance or care, should also result.

Here is a truly theatrical product of many applications.

CEMENT, CONTAINED BY METAL SEPARATORS, is poured into a mold that holds the metal facing shells. The adhesion is exceptionally good.

THE METAL FACING SHELL has become securely locked to the cement which has side channels, providing an interlocking effect in mortar.

1952-53 Review of Theatre Construction

The Year's Outstanding Developments in the Building and Remodeling of Theatres Are Surveyed Pictorially

Ever since the end of the second World War, the motion picture theatre industry has been going through a severe period of adjustment. The factors which brought this situation about are not hard to ascertain. The most obvious reason was of course the Government's restrictions on building and building materials. However, with the international political and economic picture threatening to explode at any moment—hurling the entire globe into a new and horrible war—it would have been unthinkable for the Government not to take measures to prepare for a possible conflict.

More direct causes leading to the shrinking of theatre construction, were things like home television. Rather than finding new theatres arising, it became an all too common thing to find former motion picture houses being converted into stores, being torn down, or left standing mute and empty.

The weight of the amusement tax, the spiraling building costs, and the general uncertainity about the future were all acting like firmly locked brakes which held construction and remodeling down to the barest minimum.

In addition to all these elements, there were also a number of fundamental population changes which greatly affected the industry. Motion pictures are a mass entertainment medium. Therefore, what the great bulk of the population does, where it lives, and how it travels has a vital influence on a theatre's future. Sociologists everywhere agree that the people are on the move. In almost every section of the country the trend is to move out of the city, and migrate to the suburbs and smaller communities.

The reason most generally offered for this restlessness among the people is the return to a larger family, and the desire to give the children the benefits of suburban living.

Another contributing factor is the steadily increasing number of automobiles on the roads, and the building of bigger and better highway networks, which makes it easier and faster to get about. Also, a number of industries have been leaving the cities because of overcrowding, taxes, and higher labor and material costs. Naturally a large number of workers follow the example set by their employers.

All of these reasons, and others, have contributed to the shrinking population of large urban centers. As a result of this, prospective theatre builders have been delaying any positive action until they could be fairly sure of locating in an area that was not in the process of moving on to greener pastures.

It can therefore be a surprise to no one who has been following the trends to realize that new theatre construction and extensive remodeling of already existing houses, has been rather sparse. The steadily dwindling number of pages which THEATRE CATALOG has been devoting to a pictorial presentation of new theatres, is an accurate barometer of this rather unhappy fact.

As will be seen on the following pages, no particular type of construction seems to be dominant. In the last report, the greatest amount of activity seemed to take place in the huge suburban shopping centers that were sprouting up all over the country. Although there is no project in this current group which seems to apply to this category, this policy of building a theatre as an integral part of a shopping center should continue to flourish.

Causes For Optimism

Getting away from this honest, but rather grim appraisal of recent theatre construction activities, there appears to be every reason to look to the future with genuine enthusiasm and optimism.

In general, the entire subject of new theatre construction is definitely brightening. The post-war slump apparently reached its low during the past year. It appears that the famine is just about ended and that the next 12 months should be one of the most interesting and exciting periods in the entire history of the film industry.

One of the first encouraging events, which took place late in 1952, was the gradual relaxation of the Government's restrictions on construction. At first the National Production Authority, the Department of Commerce agency in charge of controlling vital materials, announced a slight increase in the amounts of these materials which could be had for amusement and entertainment construction projects. The general production picture continued to improve, and on June 30, 1953, all restrictions on building materials for recreational, amusement, and entertainment construction were lifted.

Canadian Boom

It is interesting to note that Canada is very well represented in this year's edition. At the present time the United States' northern neighbor is going through a robust and exciting period of economic development. With most of the world war torn, and with raw materials at a premium, the vast treasure chest of Canada's natural resources is in the process of being pried open. Taking its cue from this general happy situation in Canada, theatre building seems to be moving along in the same satisfactory groove.

Drive-Ins

Very few eyebrows should lift when it is noticed that of the 17 new theatre projects covered in this edition, nine of them are drive-ins. The outdoor theatre has been the most vigorous branch of exhibition for the past number of years. With the lifting of the building ban, this move was accelerated, and hundreds of new outdoor theatres were quickly taken out of the blueprint stage, and construction began. An interesting fact, which has become more apparent with the passing of the months, is that many of these new drive-ins are deluxe operations. A good number of them have capacities close to 1000 cars, while others are presently operating with only 500 or 600 speaker positions, but built with the thought of expanding to perhaps double that amount at any time. This confidence in the future of drive-in exhibition demonstrated by the people who make their living from their operation, is indeed an encouraging sign.

Another trend which has appeared in the most recent drive-in construction, is the growing popularity of making provisions for walk-in trade. Some new ozoners have stands which hold as many as 500 persons, and the idea seems to be catching on with exhibitors and the public.

Concession buildings and patios are also being given more consideration than in the past. It has been found that an attractive patio with proper seating and table facilities, usually results in a substantial increase in concession item sales. There seems to be little doubt that drive-in construction will reach a new peak in the coming year.

New Systems

As for conventional indoor houses, it appears that while there will be some new construction, the major area of activity will be in remodeling. Much of this will be the direct result of the new techniques which burst upon the industry in such an unexpected fashion.

The advent of 3-D and the various wide screen systems, has created a new interest in motion pictures.

Future Bright

In looking over the past year it can be clearly seen that while the first six months were a continuation of the downward spiral which had belabored the film industry, the latter half saw a definite reawakening of interest and activity. The end of the ban on construction, the development of revolutionary new techniques, improved construction methods and materials, plus a new feeling of confidence are strong indications that the worst might be over, and that next year will see this vastly improving situation flower into its full potential.

The theatres which are to be found on the following pages appear to be the advance guard of what may very well be the start of a new era in the motion picture theatre field.

The future does indeed look bright.

PARAMOUNT •

Edmonton, Alberta, Canada

From all reports, Canada is entering a period of great prosperity. The half-million dollar Paramount seems to add to the validity of these reports.

Constructed entirely of steel and concrete, the 1400 seat stadium-type house is fireproof, and embodies all the latest features in theatre design.

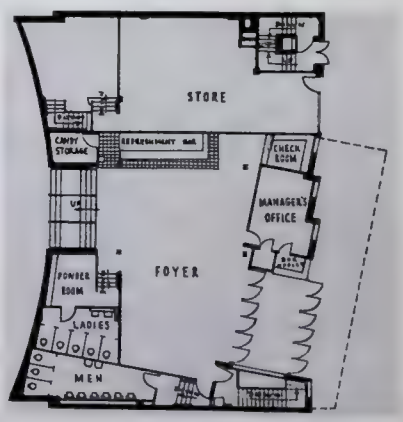
The front of the building is covered in Tyndall stone and imported Italian marble. The spacious inner lobby has soft, indirect lighting, and the walls are finished in natural oak.

One of the chief features of the auditorium is push-back seating—the first of its kind in the city. Some other outstanding features are the fully automatic air conditioning system, special toilet facilities for children, and the latest projection and sound equipment.

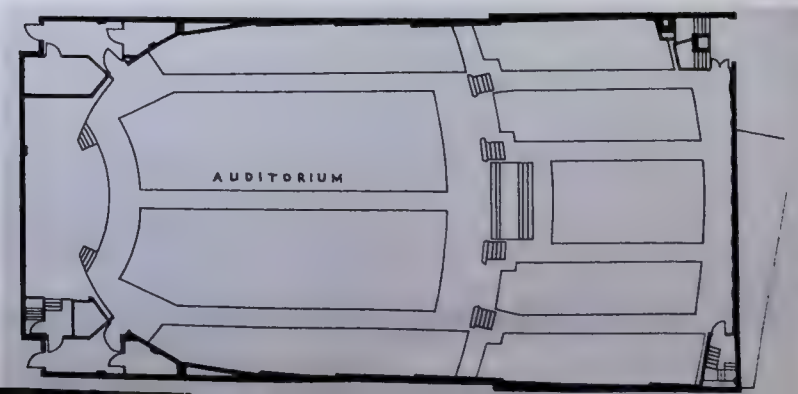
REFERENCE DATA

OWNER & OPERATOR: Famous Players Canadian Corp., Ltd.
ARCHITECT: Green, Blankstein, Russell.
SEATING CAPACITY: 1,400.
COST OF BUILDING (including air conditioning): $350,000.
COST OF EQUIPMENT: $50,000.
SIZE OF LOT: 80 x 150.

Carpets: Toronto Carpet Mfg. Co. Ltd.
Chairs: Kroehler Mfg. Co., Canadian Theatre Chair Co.
Coinchanger: Coinometer Corp.
Decorator: W. J. Keeler.
Dimmers: Superior Electric Co., Powerstat.
Generators: Hertner Electric Co.
Lenses: RossKote.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarc.
Projection Machines: International Projector Corp., Simplex X-L.
Rewinders: Goldberg Bros., automatic.
Screen: Walker-American Corp., Plastic Moulded.
Sign & Marquee: Adler Silhouette Letter
Sign Letters: Adler Silhouette Letter Co., 8", 10", 12", 16" red & green plastic.
Sound: International Projector Corp.
Supply Dealer: General Theatre Supply



OCCUPYING AN AREA 80 feet wide, by 150 feet deep, there is enough room for comfort and style.



THE INSIDE BOXOFFICE eliminates the discomfort of cold-weather ticket buying. Upon entering the richly carpeted inner lobby, patrons are greeted with soft music. The auditorium walls are shades of Mediterranean green. Design does not compete with screen for patron attention.

THE ENTIRE AUDITORIUM, including carpeting, seat covering and curtains has been fireproofed. The staggered seating assures good viewing.

Refreshment counter is smartly finished in quilted leather and stocks 150 different candy items, as well as selling ice cream and soft drinks.

MARINA •

San Francisco, Calif.

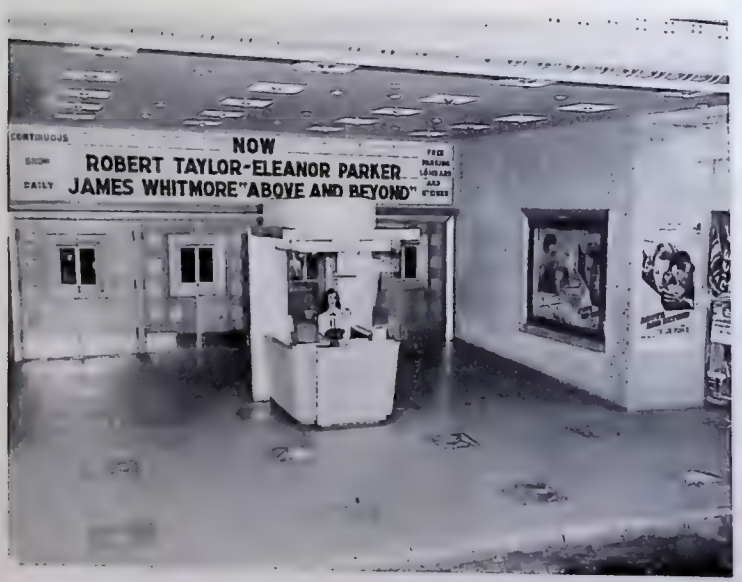
Originally constructed in 1927 on land which was the site of the Panama International Exhibition, the Marina was completely remodeled and reopened its doors on February of 1952.

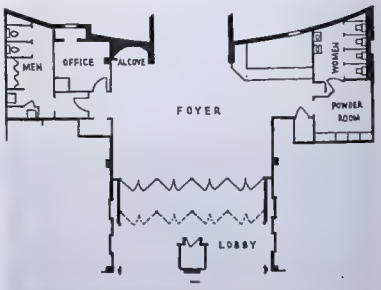
The front of the theatre has terrazzo figures which are carried from entrance doors to the curb. A special aluminum and ceramic tile boxoffice maintains the decorative scheme.

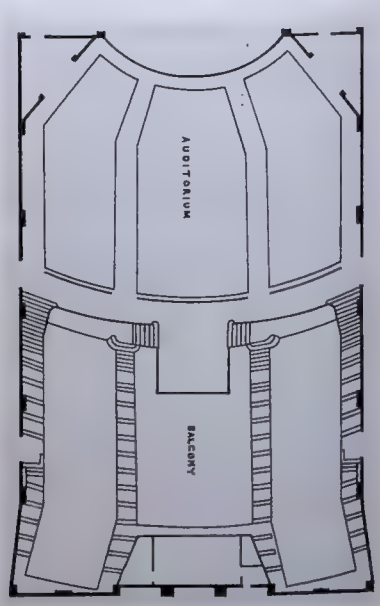
The lobby was enlarged and done in green, rose, and yellow. Auditorium walls were acoustically treated, and new air conditioning installed. The ceiling and side wall panels are orange, the ceiling being lighter than the walls.

A new seating arrangement reduced the number of seats to 850—200 less than before the remodeling. All loge seats were installed. The stage was redraped with glass cloth drapes in shades of rose and silver.

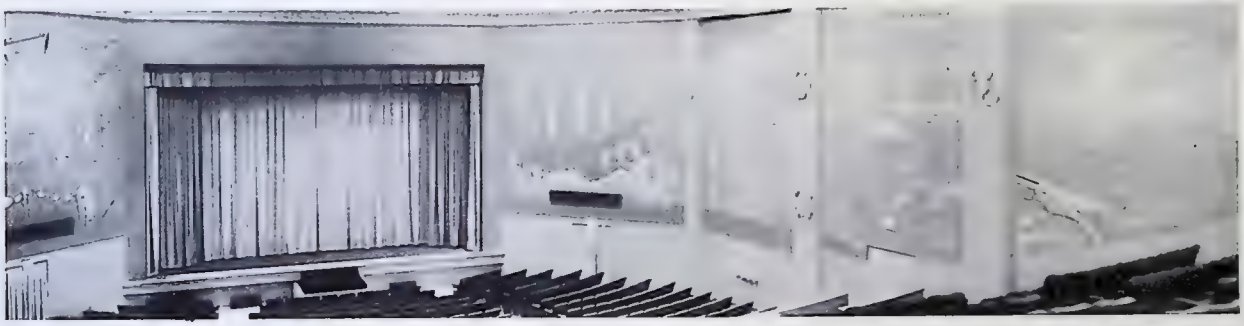
Drawing its clientele from one of the best residential districts, the atmosphere created is one of luxury and taste.







FLOOR AND WALLS of foyer are finished with green ceramic mosaic, with inserts of terrazzo figures. The enlarged lobby has a reader board over the front doors to be read upon leaving.



THE CANDY BAR uses birch-faced fixtures, and has a cup dispenser built-in. The murals in the auditorium depict local history and industry. The all-loge seating insures luxurious comfort.

REFERENCE DATA

OWNER: Hardy Theatres.
OPERATOR: Westland Theatres.
ARCHITECT: Vincent G. Raney.
SEATING CAPACITY: 850.
SIZE OF LOT: 80 x 120.

Carpets: A. & M. Karagheusian, Inc., Gulistan.
Chairs: Heywood-Wakefield Co., AirFlo & Encore.
Curtain Controls & Tracks: Automatic Devices Co.
Decorator: R. Ashby Eckels.
Draperies & Stage Curtains: B. F. Shearer Co.
Display Frames: Universal Corp., Sealuxe.
Generators: Imperial Steady Power.
Lenses: Kollmorgen Optical Corp. f1.9.
Projection Lamps: C. S. Ashcraft Mfg. Co., C70.
Projection Machines: Century Projector Corp.
Screen: B. F. Shearer Co., Cycloramic.
Sign Letters: Wagner Sign Service, Inc.
Sound: Motiograph, Inc.
Supply Dealer: B. F. Shearer Co.
Ticket Issuing Machine: General Register Corp.
Vending Machines: C. Cretors, popcorn; Mission Orange, bubbler.

ALOUETTE •

Montreal, Quebec, Canada

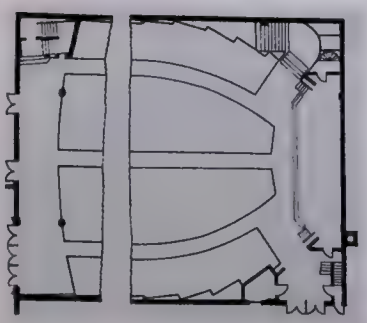
Situated in the heart of the main business section, this colorful 1300 seat stadium-type theatre opened to the public March 6, 1952.

Catering to the large French speaking population of Montreal, both the decorative treatment, and the films shown are French in origin and flavor.

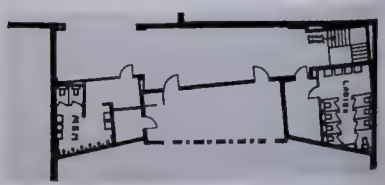
In order to overcome the problem of a very narrow area for the front, a series of vividly colored terrazzo and macotta diagonal stripes were placed over the marquee. To further overcome the space problem a towering sign was also installed.

The dominating feature of the lobby is the ultra-modern wall mural which curves up the wall of the main stairway to the lounge. The color scheme is pink, beige and deep blue. The carpeting was especially designed and shows a lark perched on a branch against a black background, and framed with maple leaves.

The auditorium is built low and wide in order to get the best acoustical effect. The cost of construction was over $300,000.



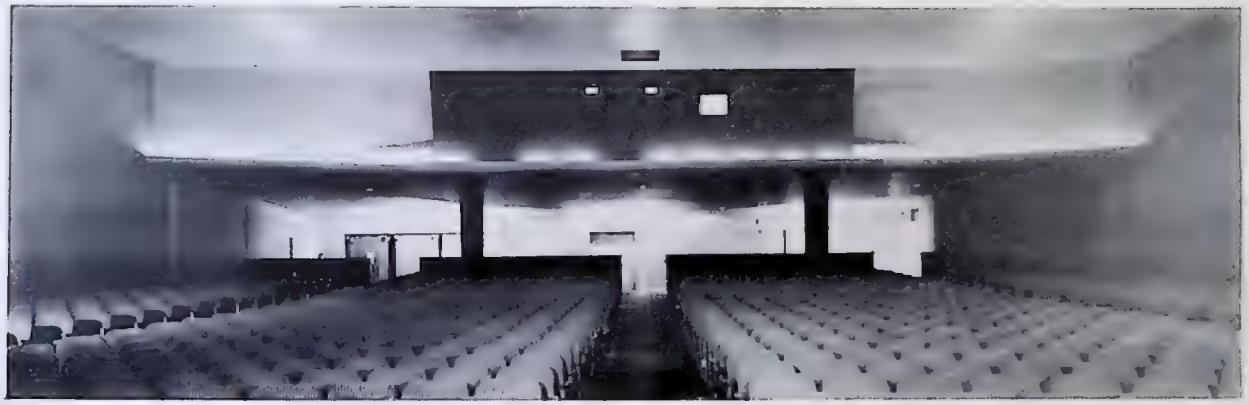
LOCATED ON WHAT was once a parking lot the designers of the Alouette made use of bright colors and bold decorative treatment to overcome space problems. Notice the outline of a lark in neon tubing on the large sign, and the same lark theme on the carpeting. The unusual mural and door handles dominate the lobby.



REFERENCE DATA

OWNER: Mercantile Property Corp.
OPERATOR: Consolidated Theatres, Ltd.
ARCHITECT: Greenspoon, Freedlander & Dunne.
SEATING CAPACITY: 1,300.
COST OF BUILDING: $300,000.

Carpets: Toronto Carpet Mfg. Co., Ltd.
Chairs: Canadian Theatre Chair Co.
Coinchanger: Coinometer Corp.
Curtain Controls & Tracks: Automatic Devices Co.
Decorator: Oscar Glas, Belgium Art Studios.
Generators: Hertner Electric Co.
Lenses: RossKote.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarc.
Projection Machines: International Projector Corp., Simplex X-L.
Rectifiers: Strong Electric Corp.
Screen: Walker-American Corp.
Sign & Marquee: Adler Silhouette Letter Co.
Sign Letters: Adler Silhouette Letter Co., 10″ plastic.
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: General Theatre Supply Co., Ltd.
Ticket Issuing Machines: General Register Corp., Automaticket.



SEA VIEW •

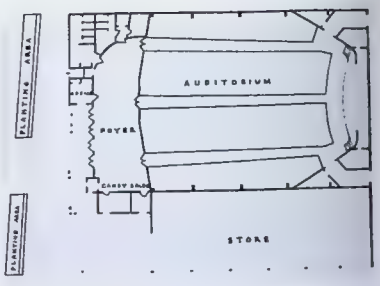
Pacific Manor, Calif.

Located between San Francisco and Half Moon Bay, the Sea View lives up to its name by the fact that the Pacific Ocean is merely 300 feet from the theatre. The translucent, corrugated plastic star-shaped tower has revolving neon lights and gives the impression of being a lighthouse. Tower also houses a film elevator.

The lobby and foyer walls are green stucco, and doors are natural finish figured birch. Wall designs consist of stylized line murals depicting various nautical scenes. The carpeting is bird of paradise design on a deep maroon background.

Presently seating 800, space has been left, and auditorium floor sloped so that by removing rear wall and adding one more arch, the capacity can be raised to 1000 seats.

Because of the theatre's proximity to the Pacific Ocean, an air conditioning system is not required.



REFERENCE DATA

OWNER: Pacific Development Co.
OPERATOR: Samuel C. Levin.
DESIGNER: Gale Santocono.
SEATING CAPACITY: 800.
COST OF BUILDING: $100,000.
COST OF EQUIPMENT: $60,000.
SIZE OF LOT: 125 x 150.
Carpets: A. & M. Karagheusian, Inc.
Chairs: Heywood-Wakefield Co.
Curtain Controls & Tracks: Automatic Devices Co.
Decorator: Gale Santocono.
Generator: Imperial Electric Co.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: C. S. Ashcraft Mfg. Corp., C-70 Suprex.
Projection Machines: Motiograph, Inc.
Rewinders: GoldE Mfg. Co.
Screen: B. F. Shearer Co., Cycloramic.
Sign & Marquee: Wagner Sign Service, Inc.
Sign Letters: Wagner Sign Service, Inc.
Sound: Motiograph, Inc.
Supply Dealer: B. F. Shearer Co.
Ticket Issuing Machine: General Register Corp., Automaticket.

A DRAMATIC EFFECT is achieved in the auditorium through the use of laminated wood arches and the modernistic marine life murals on the side walls. Stage drapes are festooned blue glass cloth, with gold crushed plush background and gold rayon title curtain for contrast.

EMPRESS

Fairbanks, Alaska

If proof were needed to substantiate the fact that Alaska is not merely a frontier area, the completely remodeled Empress could well serve as Exhibit A. This attractive, well equipped house compares with similar situations in the States.

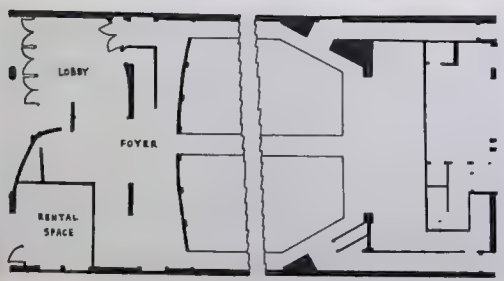
The front is faced with red Flambeau granite and sand colored tiles. Recessed floodlights bathe the theatre in a brilliant display of light. .It is interesting that the entire marquee neon reader board displays were so designed that they could fit into the largest freight plane available, as they had to be flown in from Seattle.

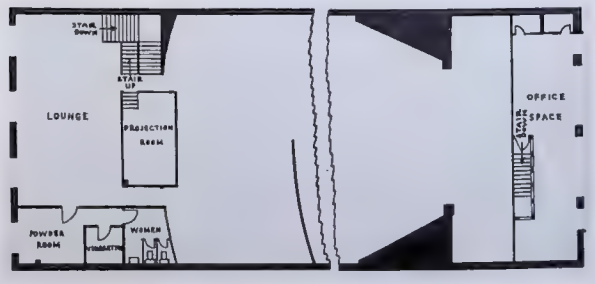
The lobby was enlarged and a modern refreshment bar installed. The mezzanine lounge has a monotone color scheme of sand, tan and brown to match existing mural. The auditorium was completely reseated, and an Austrian puff stage curtain installed. The old screen was replaced with an RCA Synchro-Screen.

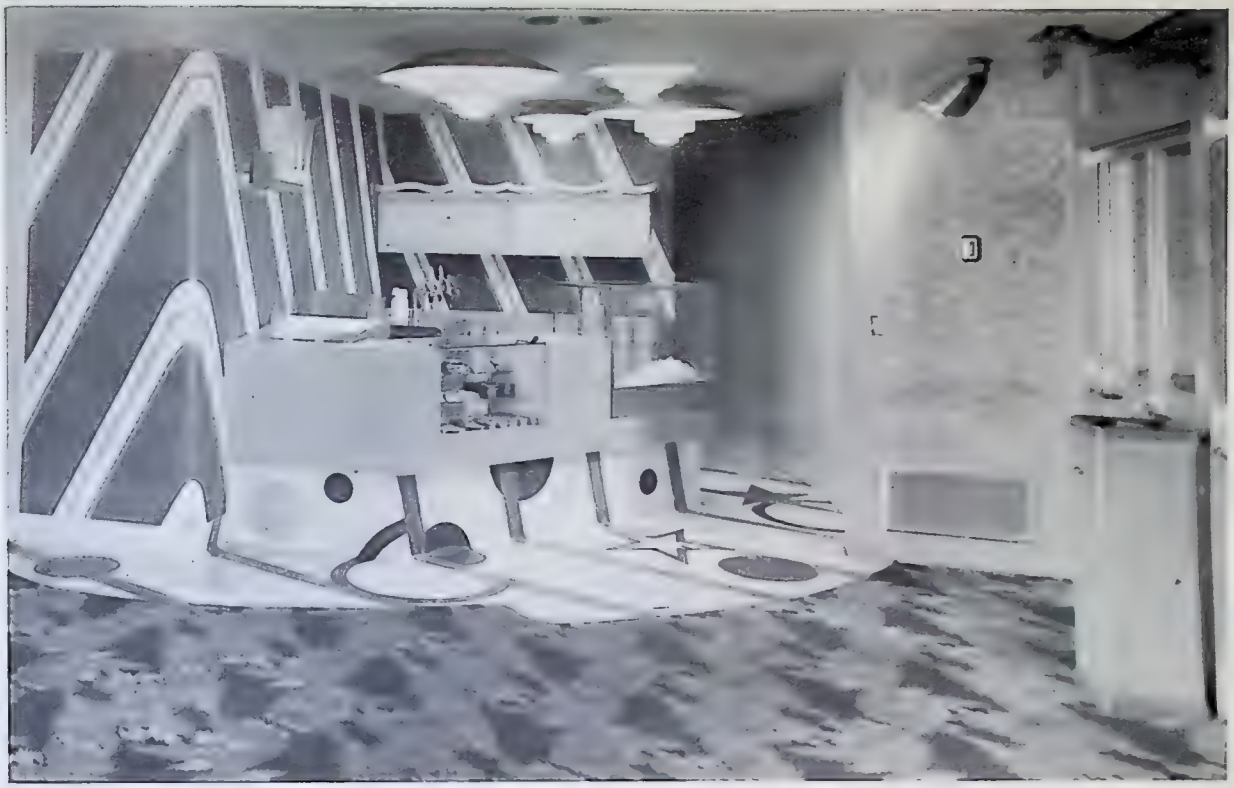
A major factor in the design of the alteration job was the weather. Since temperatures often reach as low as 60 below zero, the handling of traffic so as not to allow the theatre to get too cold, had to be given top priority.

This was achieved by providing maximum holding areas on both floors, for incoming crowds at the break. The main floor holds 100 people, while the mezzanine lounge handles 200.

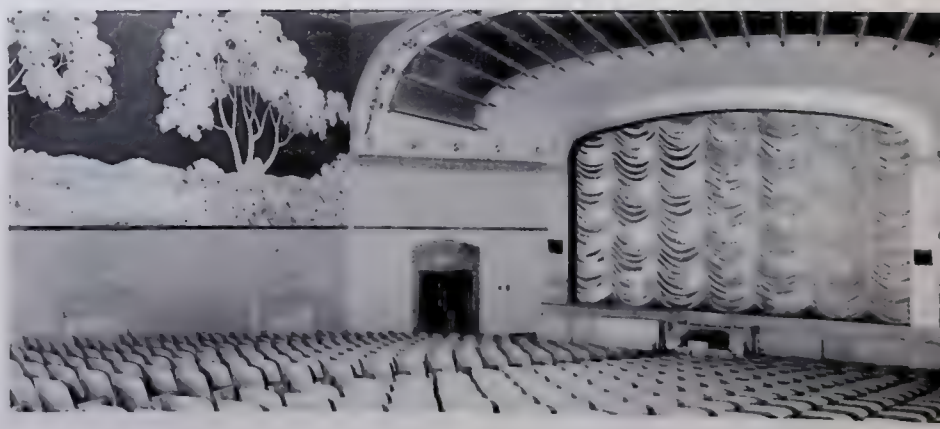
The remodeling job was planned so that it was not necessary to close at all.







ATTRACTIVE REFRESHMENT bar is done in hard woods with rubber flooring in pattern, and has striking color scheme on back walls. Views of auditorium and front indicate careful planning.



REFERENCE DATA

OWNER: The Lathrop Co.
OPERATOR: Dan Redden.
ARCHITECT: Paul G. Carlson.
SEATING CAPACITY: 640.

Carpets: A. & M. Karagheusian, Inc.
Chairs: Heywood-Wakefield Co.
Decorator: Architects (Carlson, Eley, Grevstad).
Display Frames: Universal Corp., Sealuxe.
Draperies & Stage Curtains: B. F. Shearer Co.
Generators: Imperial Electric Co.
Lenses: Kollmorgen Optical Corp., Super Snaplite f1.9.
Projection Lamps: RCA.
Projection Machines: RCA.
Rewinders: GoldE Mfg. Co., automatic.
Rubber Mats: U. S. Rubber Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: RCA.
Supply Dealer: B. F. Shearer Co.
Ticket Issuing Machine: General Register Corp., Automaticket.
Vending Machines: Spacarb Co., Inc.

MARDA •

Calgary, Alberta, Canada

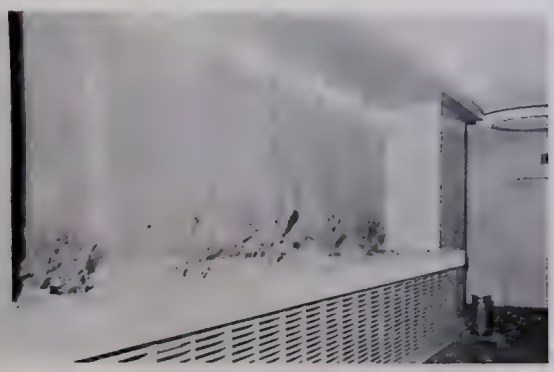
Situated in a neighborhood shopping district, with a drawing area of some 15,000, the Marda is a smartly designed and operated theatre.

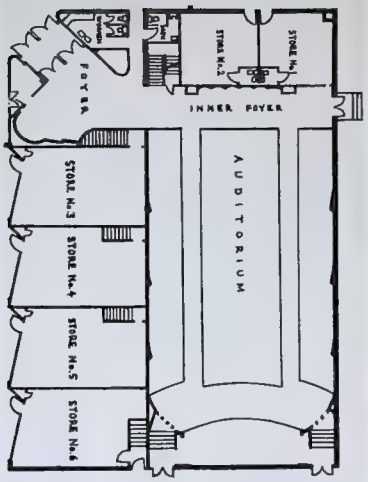
Representing an investment of over $180,000, the house is sturdily constructed with cement blocks and reinforced concrete. The simple, but attractive front is white stucco and roman brick. Neon tubing sets off the two marquee reader panels, and the large letters which rise above the building stand out against the sky.

Avoiding excessive ornamentation, the lobby and foyer are painted rose color. To act as contrast the carpet, which is imported from England, is a pleasing shade of green.

The comfortably laid out auditorium can seat 492 persons.

A NEIGHBORHOOD theatre in a growing community the Marda combines functionalism with simple design. A well stocked concession stand and a comfortable lounge area furnish patrons with necessary services, while attractive planting area and color scheme add a touch of beauty.





A VIEW of the auditorium reveals the acoustic plaster on ceilings and walls. There are living quarters and private viewing room behind booth.

REFERENCE DATA

OWNER & OPERATOR: M. E. Jenkins.
ARCHITECT: Stevenson & Dewar.
SEATING CAPACITY: 492.
COST OF BUILDING: $175,000.
SIZE OF LOT: 150 x 228.

Chairs: Canadian Office & School Furniture Ltd.
Curtain Controls & Tracks: Automatic Devices Co.
Film Cabinets: Goldberg Bros.
Generators: Motiograph, Inc.
Projection Lamps: Motiograph, Inc.
Projection Machines: Motiograph, Inc.
Rewinders: GoldE Mfg. Co., automatic.
Screen: Da-Lite.
Sign Letters: Wagner Sign Service, Inc.
Sound: Motiograph, Inc.
Supply Dealer: Sharp's Theatre Supplies Ltd.
Ticket Chopper: GoldE Mfg. Co.

ELMIRA •

Elmira, N. Y.

Originally constructed during the period when large movie palaces were cluttered with excessive amounts of interior and exterior ornamentation, the Elmira emerged from a quarter of a million dollar remodeling job as streamlined and modern as a jet.

Generous amounts of granite, glass, stainless steel and aluminum were used to completely change the design and theatre atmosphere.

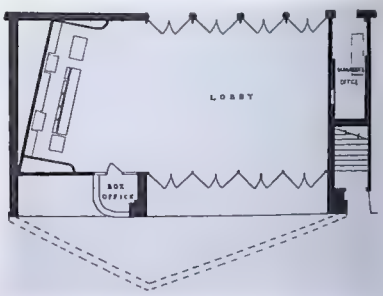
Flesh tint mirrors and striking terrazzo floors dominate the spacious lobby, and there is an attractive mural over the area leading to the mezzanine stairway.

The auditorium, which holds 2500, was remodeled from the standee rail to the stage. The new equipment includes an installation of the Miracle Mirror CinemaScope screen.

REFERENCE DATA

OWNER: One Fifty Three Corp.
OPERATOR: Dipson Circuit.
ARCHITECT: Michael J. DeAngelis.
COST OF BUILDING: $250,000.
SEATING CAPACITY: 2,500.

Carpets: Alexander Smith & Sons.
Curtain Controls & Tracks: Automatic Devices Co.
Decorator: Novelty Scenic Studios, Inc.
Display Frames: Universal Corp., Sealuxe.
Draperies & Stage Curtains: Novelty Scenic Studios, Inc.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: Strong Electric Co.
Projection Machines: International Projector Corp.
Screen: CinemaScope.
Sign & Marquee: Empire Signs Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: RCA.



A COMPLETE NEW SET of seats were installed and all the previous wall and ceiling ornamentation eliminated. Soft cove lighting and color contrasting drapes are found. Notice the attractive carpeting in the foyer area below. This carpet design was used throughout the theatre.

RIALTO •

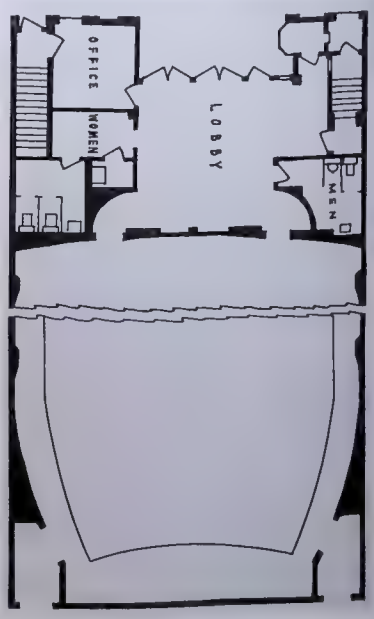
Morrilton, Ark.

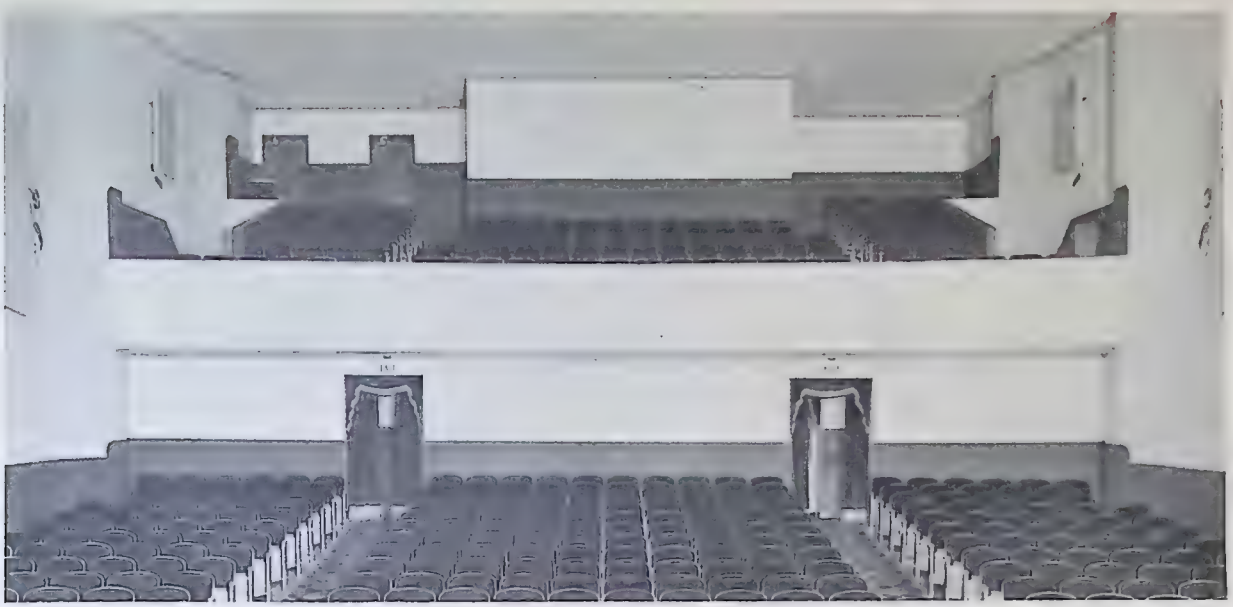
As a result of an extensive reconstruction job, the Rialto is now a model of a small town theatre.

The building has a brick front and four by four peach tile under the marquee. Lobby and foyer are illuminated by an indirect lighting fixture set into a wide circular opening in the ceiling. Color scheme is chocolate brown and lime green. The figured carpeting is wineberry with swirls of sage green and yellow, laid over ozite pads from wall to wall.

The front of the modern concession stand is lime green and chocolate brown squares of weldtex. The candy cabinet on backbar is in matching shades. A popcorn and drink machine are built into the cabinet.

Outstanding decorative feature of the auditorium is the floral design of red, green, and off-white against a background of sage green. An over-size screen is framed with green velour curtains. The cushioned seats are in dark red velour.

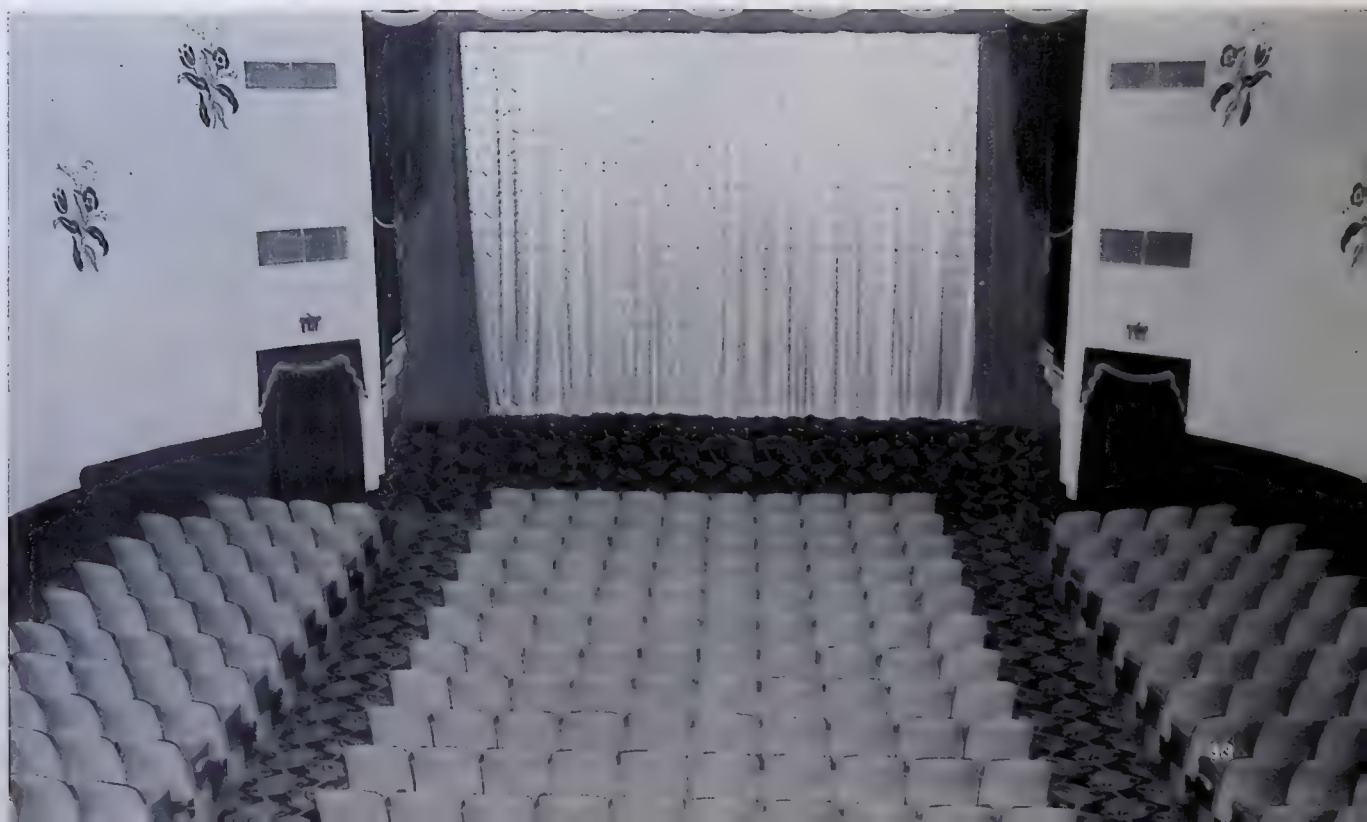


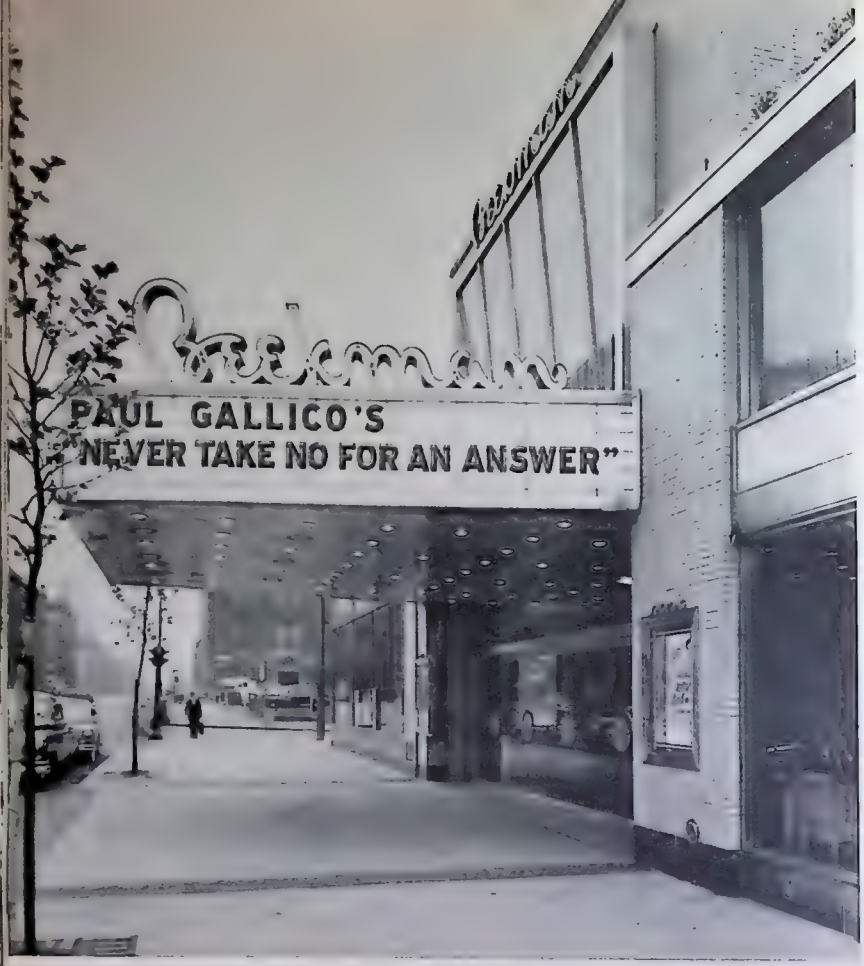


REFERENCE DATA

OWNER: United Theatres Corp.
OPERATOR: M. S. McCord & W. B. Sockwell.
ARCHITECT: E. F. Bruggeman.
SEATING CAPACITY: 670.
COST OF BUILDING: $60,000.
COST OF EQUIPMENT (including air conditioning): $36,000.
SIZE OF LOT: 50 x 120.

Carpets: Mohawk Carpet Co.
Chairs: International Seat Co.
Coinchanger: Johnson Fare Box Co.
Curtain Controls & Tracks: Vallen, Inc.
Decorator: Harold Joyce.
Display Frames: Theatre Specialties, Inc., Aluminex.
Draperies & Stage Curtains: Okla. City Scenic.
Generators: Hertner Electric Co.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless.
Projection Machines: International Projector Corp., Simplex.
Rewinders: GoldE Mfg. Co.
Screen: Walker-American Corp., White.
Sign & Marquee: Wagner Sign Service, Inc.
Sign Letters: Wagner Sign Service, Inc., 8", 10".
Sound: RCA.
Supply Dealer: National Theatre Supply.
Ticket Issuing Machine: General Register Corp.





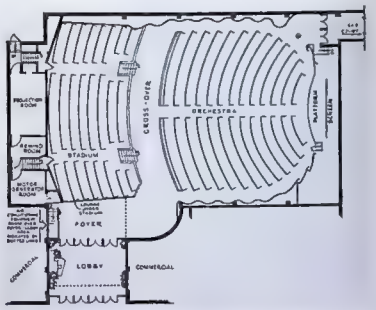
BEEKMAN •

New York, N. Y.

One of the newest and brightest jewels in the Rugoff and Becker chain of theatres is this well planned and beautifully appointed art house situated in one of the best sections of New York City.

In keeping with the mood of the surrounding buildings, the theatre is built of white brick and trimmed with glass and stainless steel. The simple foyer has a black and white terrazzo floor. The conventional boxoffice was eliminated and a long counter finished in dark walnut was substituted.

Undulating walls of acoustical plaster in the auditorium insures perfect listening, and 400 yards of gold twill Fiberglas draperies add to the regal splendor. The 500 comfortable seats occupy a space normally used for 800.



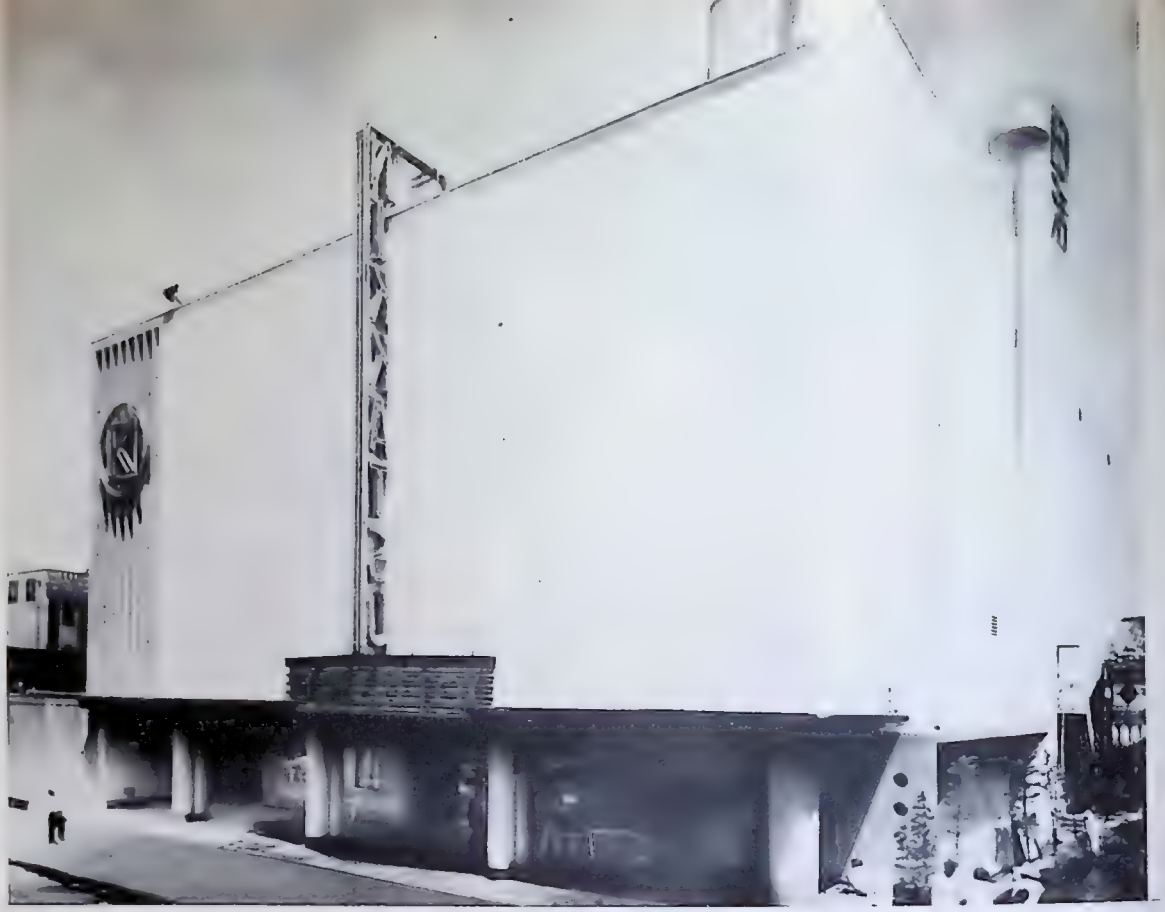
THE CONVENTIONAL boxoffice was bypassed for a more intimate open counter. Combining comfort and beauty the lounge features soft cove lighting, bleached oak paneling and walls paneled with fabric wallpaper.

ALL AUDITORIUM lighting in this 590 seat art spot is concealed or recessed. The color scheme consists of grey and green walls with cherry red seats. Some 1200 yards of dark green carpeting has been used.

REFERENCE DATA

OWNER: New York Life Insurance Co.
OPERATOR: Rugoff & Becker.
ARCHITECT: John J. McNamara.
SEATING CAPACITY: 590.
COST OF BUILDING: $200,000.
COST OF EQUIPMENT: $75,000.
SIZE OF LOT: 100′ x 200′.

Carpets: Alexander Smith.
Chairs: Heywood-Wakefield.
Curtain Controls & Tracks: Automatic Devices Co.
Decorator: Rau Studios.
Draperies & Stage Curtains: M. Weiss & Sons.
Generators: Hertner Electric Co.
Lenses: Bausch & Lomb Optical Co.
Lighting Fixtures: Century Lighting Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarc.
Projection Machines: International Projector Corp., Simplex X-L.
Screen: Raytone.
Sign & Marquee: White Way Sign Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: RCA.
Supply Dealer: National Theatre Supply.
Ticket Machine: General Register Corp.



NAGOYA NIKKATSU •

Nagoya City, Japan

A brilliant example of how to combine Oriental lines with a completely modern structure is this beautiful 1256 seat theatre. It is said to be the only building of its size in all Japan that does not have any windows. Costing over $300,000 it is the ultimate in Japanese theatres.

REFERENCE DATA

OWNER & OPERATOR: Nikkatsu Motion Picture Co., Ltd.

ARCHITECT: Takenaka Komuten Co., Ltd.

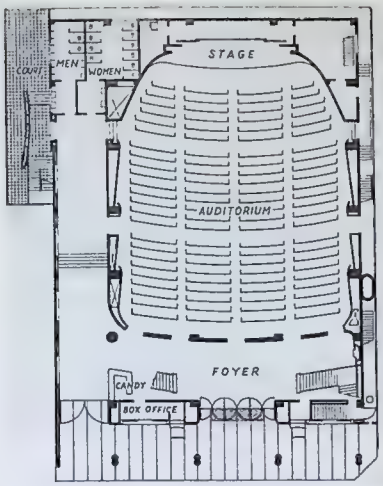
SEATING CAPACITY: 1,256.

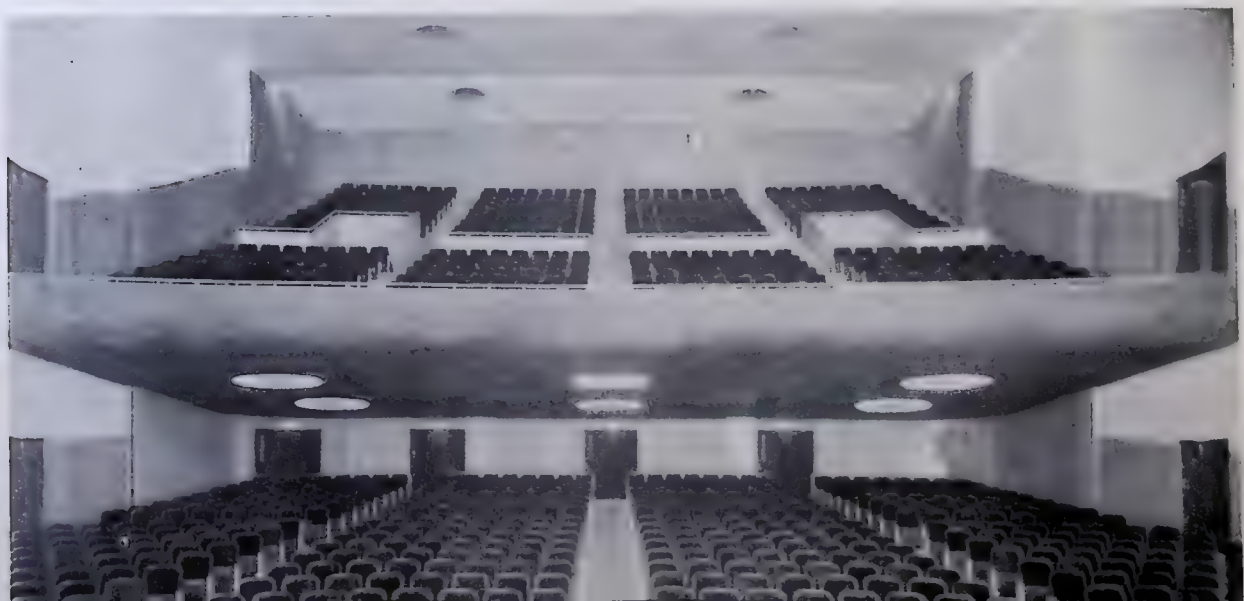
COST OF BUILDING: $200,000.

COST OF EQUIPMENT (including air conditioning): $126,000.

SIZE OF LOT: 90'8" x 140'7".

Air Conditioning: Hitachi Koji Co., Ltd.
Carpets: Suminoe Textile Co., Ltd.
Chairs: Kotobuki Shoten Co., Ltd.
Curtain Controls & Track: Yanagiya Sound Co., Ltd.
Projection Machines: Tokyo Keiki Co., Ltd.
Sound: Nippon Victor Co., Ltd.
Screen: Yanagiya Sound Co., Ltd.


STAGE
MEN
WOMEN
AUDITORIUM
FOYER
CANDY
BOX OFFICE



PALMARIUM •

Tunis

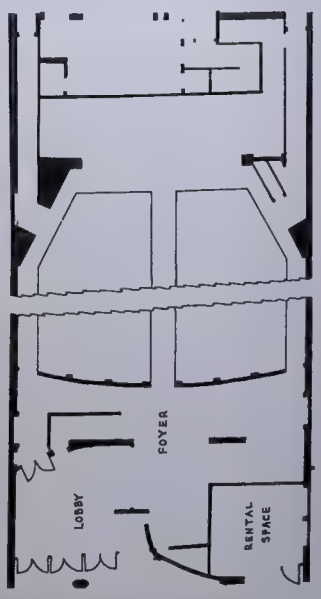
A true center of entertainment, this is one of the finest theatres to be found in Africa.

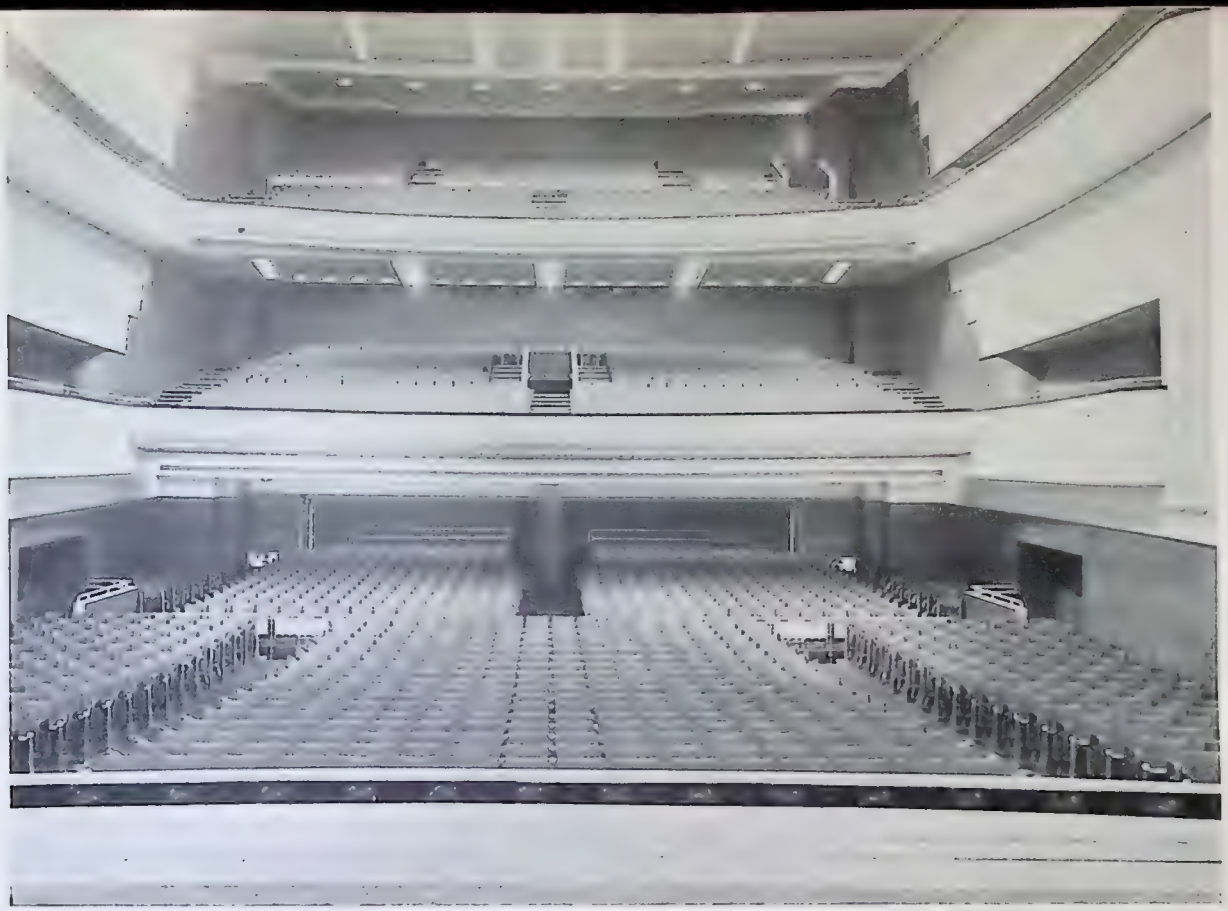
In addition to holding a 2400 seat double balcony theatre, the building also houses a tea room and a night club, both of which may be reached by going through the impressive lobby which has granite columns and a floor made of green and white marble. The ground level entrance hall may be used as reception room when need arises.

REFERENCE DATA

OWNER: Municipality of Tunis.
ARCHITECT: de Montaut, Gorska, Le Soufache.
SEATING CAPACITY: 2,400.
COST OF BUILDING: Approx. $571,428.
COST OF EQUIPMENT (including air conditioning): Approx. $171,428.

Carpets: Chevallier.
Chairs: Ste De Representation de L'Industrie Moderne.
Elevators: Constantin.
Draperies & Stage Curtains: Mihiere & Pihier.
Supply Dealer: Westrex Co., France-Belgium.





IN THIS VIEW FROM THE stage (above) can be seen the beauty and simplicity of the auditorium design. The interesting design around the proscenium opening can be seen in the view below. Notice the combined use of fluorescent and incandescent lighting.

LAS PALMAS •

Caracas, Venezuela

Capturing some of the fire and vivid color that is typical of South America the facade of the Las Palmas is white granite, and is brilliantly lighted by concealed spotlights. Located in one of the best residential neighborhoods the theatre seats 537, and maintains a first run policy.

REFERENCE DATA

OWNER & OPERATOR: Luis E. Franceschi.
ARCHITECT: Gustavo Gutierrez.
SEATING CAPACITY: 537.
Curtain Controls & Tracks: Vallen, Inc.
Lenses: Kollmorgen Optical Corp., Snaplite.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless.
Projection Machines: International Projector Corp., Simplex X-L.
Sign Letters: Theatre Specialties, Inc., Bevelite.
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: National Supply S. A., Caracas.
Ticket Machine: General Register Corp.

REFERENCE DATA

OWNER & OPERATOR: Newbold Keesling Circuit.
ARCHITECT: Mr. Mahood.
CAR CAPACITY: 500.

Display Frames: Universal Corp.
Generators: Motiograph, Inc.
In-Car Speakers: Motiograph, Inc.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: Strong Electric Corp.
Projection Machines: Motiograph, Inc.
Screen Tower: Drive-In Theatre Mfg. Co.
Sign & Marquee: Wagner Sign Service, Inc.
Sign Letters: Wagner Sign Service, Inc., 10".
Sound: Motiograph, Inc.
Supply Dealer: Charleston Theatre Supply.

SKYLINE DRIVE-IN •

Oak Hill, W. Va.

Deep in the agricultural and coal mining area, the operators of this outdoor theatre discovered that the best site they could find was on top of mountain. Believing that it would be worth the effort, they proceeded to literally blast the top off the mountain to make room for the 500 car drive-in. The back of the steel screen tower is covered with a scene depicting the mountains common to the region, and the name of the theatre in large script letters.

HEART DRIVE-IN •

Kansas City, Mo.

Representing an investment of almost one-quarter of a million dollars, this is the first outdoor theatre in the city limits of Kansas City.

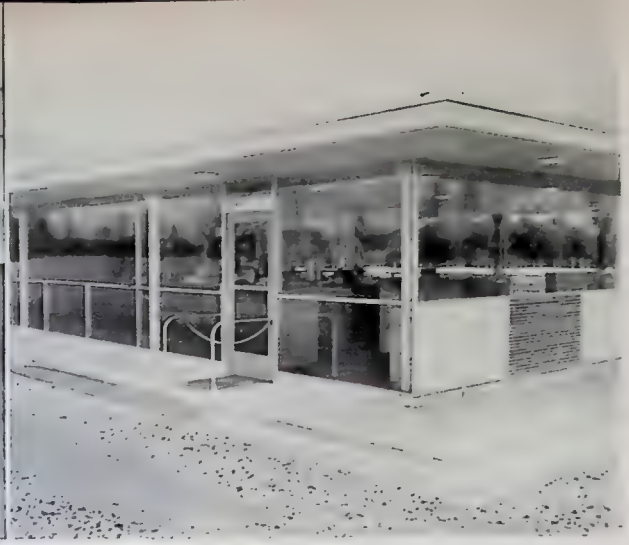
One of the most striking features of this ozoner is the unique cloverleaf style "entrance-exit" underpass which was built right under the busy highway that adjoins the property.

The 50 by 70 foot screen made of porcelain enamel on steel, is said to be the largest one of its type ever made, and the first in the area.

Its large cafeteria style concession stand is capable of handling 500 in a normal 15 minute break.

Situated next to the concession building is the projection booth which is offset from the screen about 10 degrees. To help get a clear, bright picture, lamps operating at 105 amperes are used. The projectors have a throw of 480 feet and supply a 66 foot picture.

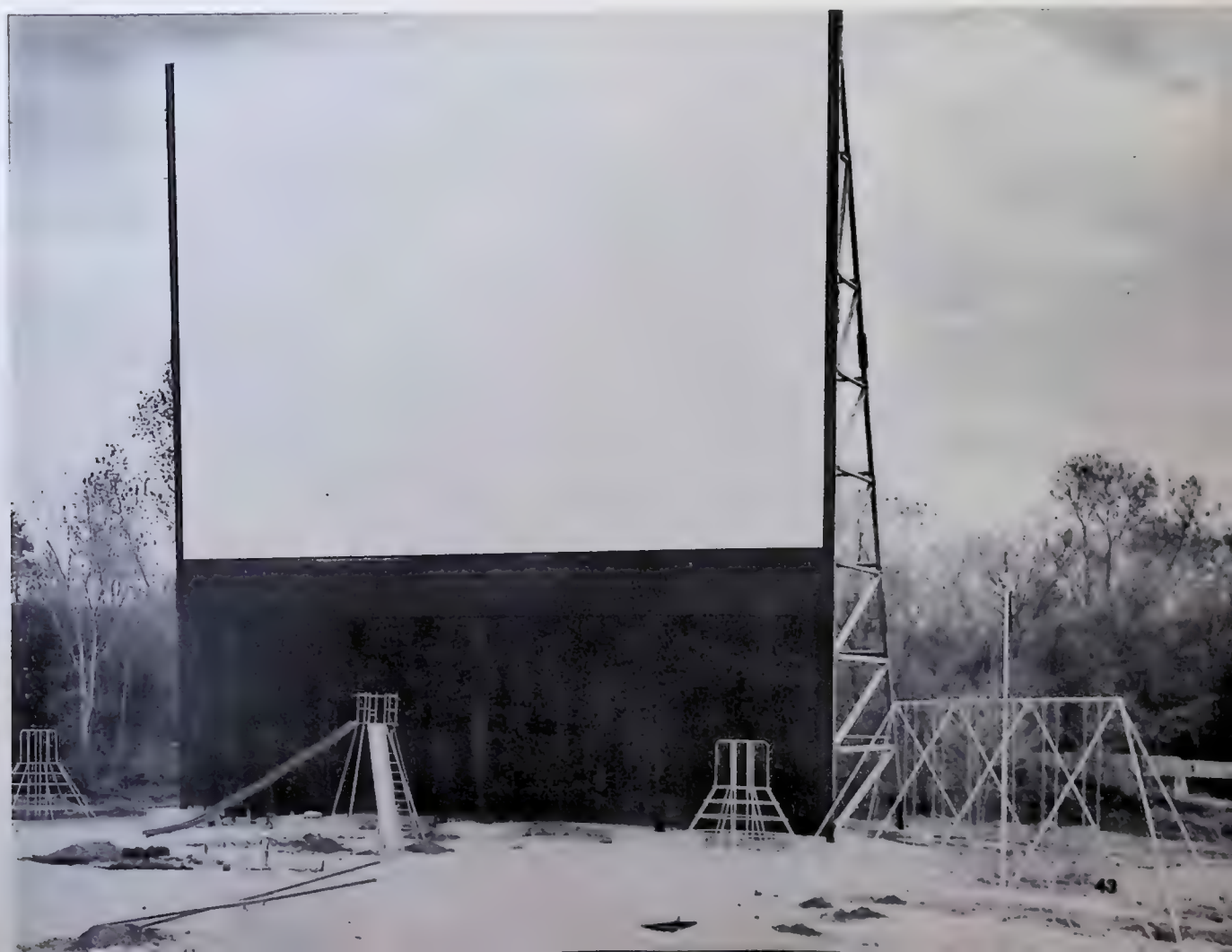
The playground in front of the wooden screen tower is fenced in a bright red, yellow, and blue. As an added inducement to lure the youngsters, the fencing is also decorated with lollipops, candy canes and flowers.

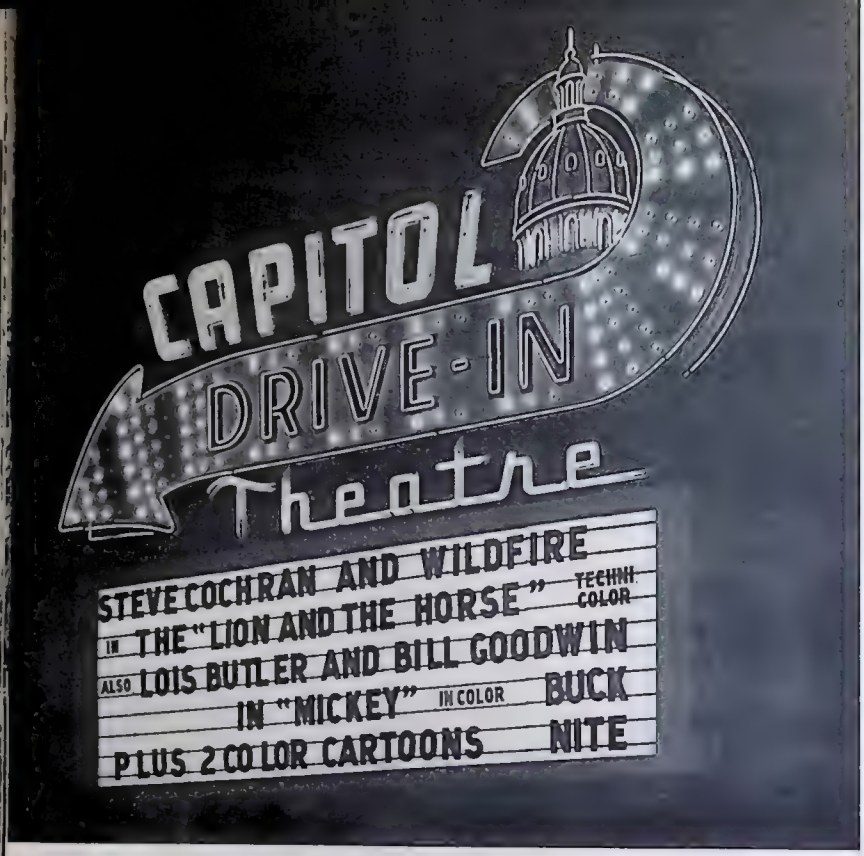


REFERENCE DATA

OWNER: Winoko Corp.
OPERATOR: R. S. Wiles, Jr. & Brooks Noah.
ARCHITECT: Kivett & Meyers.
CAR CAPACITY: 990.
COST OF BUILDING: $225,000.
COST OF EQUIPMENT: $60,000.
SIZE OF LOT: 30 acres.

Chairs: American Seating Co., Stadium.
Coinchanger: Coinometer Corp.
Generators: Hertner Electric Co.
In-Car Speakers: International Projector Corp., Simplex.
Lenses: Kollmorgen Optical Corp., Super Snaplite fl.9.
Playground Equipment: J. E. Burke Co.
Projection Lamps: National Excelite.
Projection Machines: International Projector Corp., Simplex X-L.
Rewinders: GoldE Mfg. Co.
Sign & Marquee: Iowa Neon Co.
Sign Letters: Theatre Specialties, Inc., Eevelite 10", 17".
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: National Theatre Supply.
Ticket Issuing Machines: General Register Corp.
Ticket Box: GoldE Mfg. Co.
Vending Machines: Drincolator, Majestic Orange, Icreamalator, Star, ColeSpa.





CAPITOL DRIVE-IN •

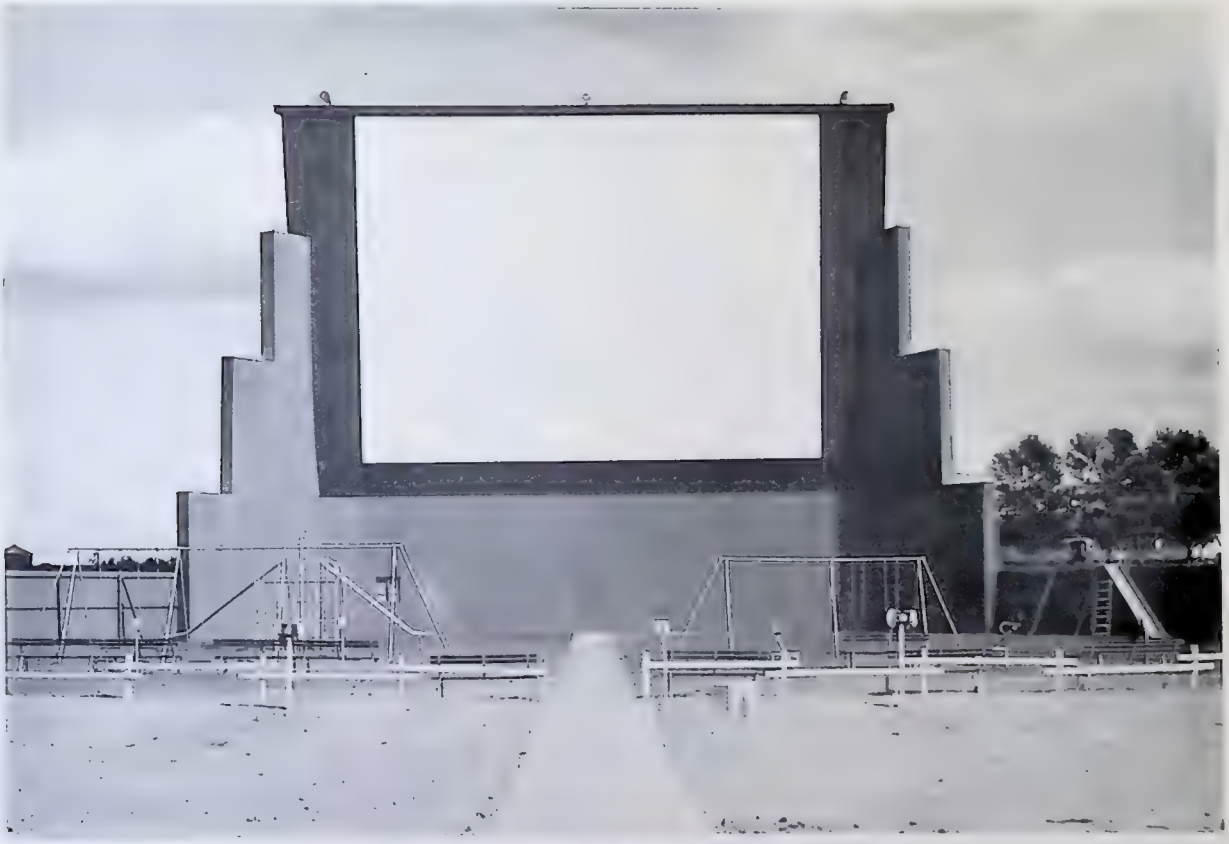
Des Moines, Iowa

Located one-half mile north of Des Moines, this is one of the nation's newest and finest outdoor theatres.

Said to be the largest drive-in in the state, the Capitol currently has 720 speaker locations with plans on the way to adding 300 more. The screen tower is a large 62 and half feet by 45 and half feet. All buildings, including the concession, operator's booth, boxoffice, front sign, and storage building, are of brick and glass-brick construction, giving the ozoner a modern and clean-cut appearance. The patio and walk-ways around the patio, 50 by 75 feet, is located directly in front of the concession stand and is equipped with tables and deck chair for use by early arrivals.

A safety feature of this drive-in is that the boxoffice is located 500 feet from the highway, allowing a large backlog of cars with no hazard to the highway. For emergency cases, where large overflow crowds might be on hand, a rear exit has been provided to avoid any possible traffic hazard.

The promotion minded operators of the theatre created a clown-like character known as Cappy, to act as a symbol in all adv·tisements. The smiling face of the clown appears in neon on the tower.



REFERENCE DATA

OWNER: Capitol Drive-In Theatres, Inc.
OPERATOR: Consolidated Agencies, Inc.
ARCHITECT: Parket Construction Co. & Lloyd Hirstine.
CAR CAPACITY: 728.
COST OF BUILDING: $108,000.
COST OF EQUIPMENT: $68,000.

Generators: RCA.
In-Car Speakers: RCA.
Projection Lamps: Strong Electric Corp.
Projection Machines: RCA.
Rewinders: GoldE Mfg. Co.
Sign Letters: Theatre Specialties, Inc., 10" Bevelite.
Sound: RCA.
Supply Dealer: Missouri Theatre Supply.

RANCH DRIVE-IN •

Hartselle, Ala.

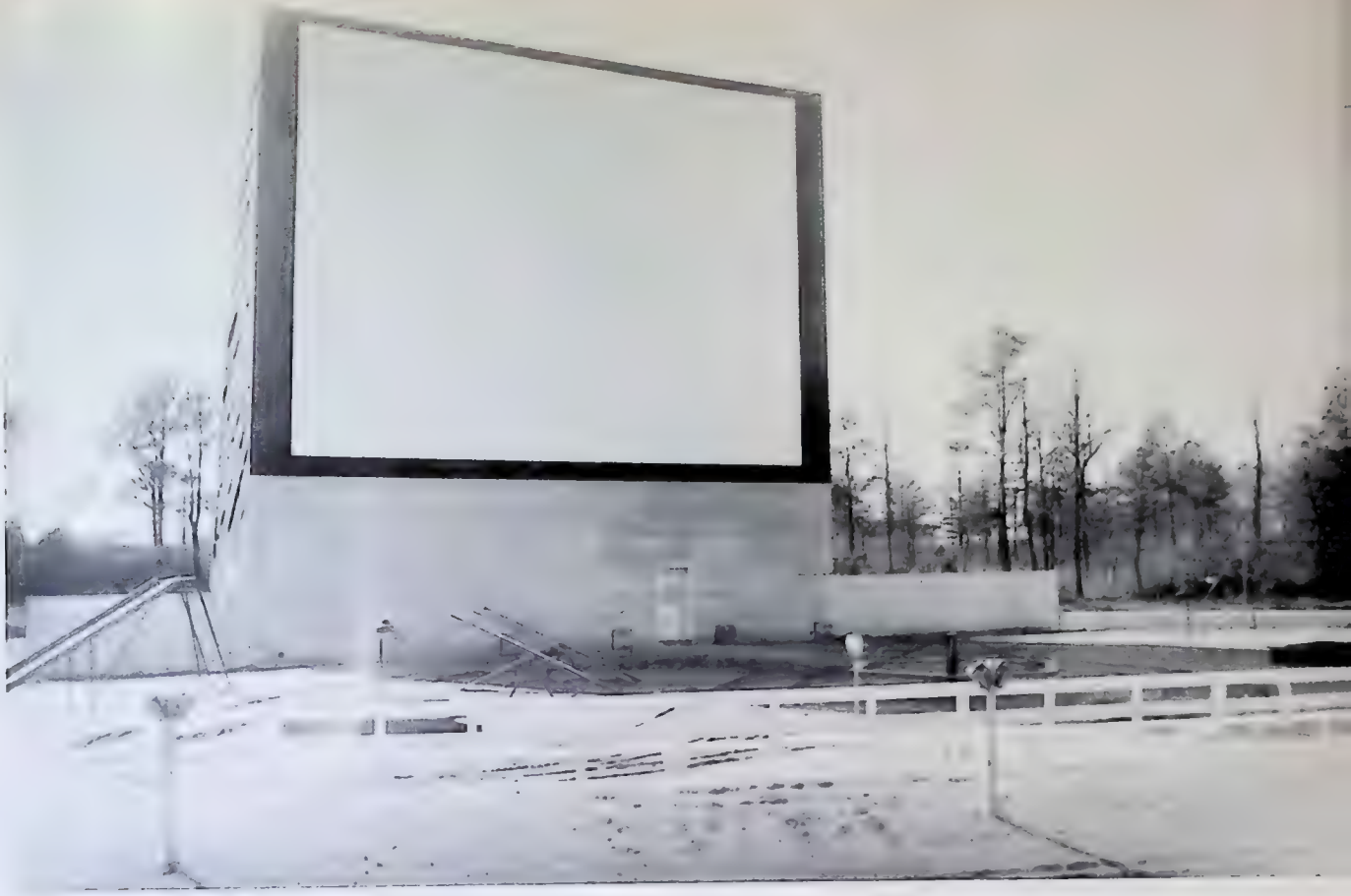
The operators of this drive-in have done their best to bring a touch of the West into the deep South.

Built at a cost of over $85,000, this 400 car ozoner carried the western mood into the concrete block and frame concession building. The walls and front of the concession stand are panelled with pine, and the exposed beams in the ceiling help add to the jaunty wide open spaces atmosphere. The toilets are given the same decorative treatment.

REFERENCE DATA

OWNER: Hubert Mitchell.
OPERATOR: Howard Mitchell.
ARCHITECT: G. W. Jones & Son.
CAR CAPACITY: 400.
COST OF BUILDING: $60,000.
COST OF EQUIPMENT: $26,000.
SIZE OF LOT: 9 acres.

Decorator: H. R. Mitchell & Co.
Generators: Hertner Electric Co.
In-Car Speakers: International Projector Corp., Simplex.
Lenses: Kollmorgen Optical Corp., f1.9.
Playground Equipment: H. R. Mitchell & Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless.
Projection Machines: International Projector Co., Simplex.
Screen Tower: H. R. Mitchell & Co.
Sign & Marquee: H. R. Mitchell & Co.
Sign Letters: H. R. Mitchell & Co.
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: National Theatre Supply, Queen Feature Service, Inc.



THE LARGE SCREEN TOWER is enclosed and has a five-room apartment on the first floor. A well-equipped kiddie playground is directly in front of the tower. Below can be seen more of the playground equipment. Plans are underway to construct a 500 seat ramp house.

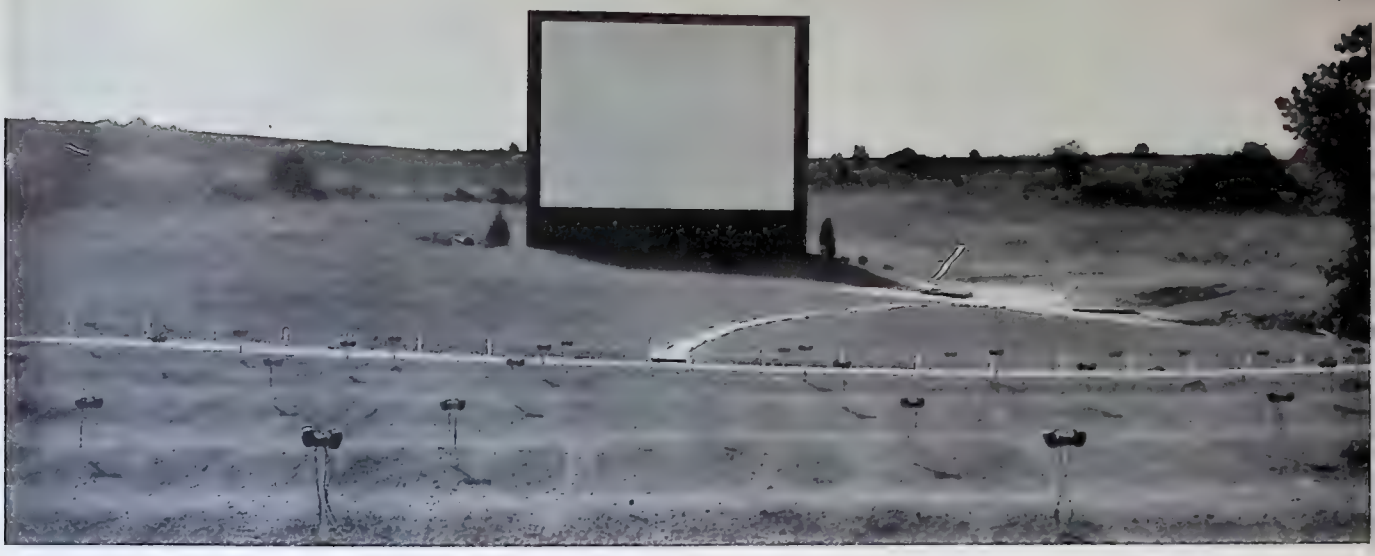
STAUNTON DRIVE-IN •

Verona, Va.

Surrounded by soft rolling land, this outdoor theatre is an ideal example of a well-run small operation.

Having a car capacity of 350, the Staunton was constructed at a cost of $60,000. The large sign at the entrance is brilliantly lighted and helps to guide the traffic into the theatre. The stars painted on its base add a touch of needed color.

The concession building is immaculate and always well stocked. A small, but adequate kiddie playground is situated to the right of the screen tower.



REFERENCE DATA

OWNER & OPERATOR: Visulite Theatres.
CAR CAPACITY: 350.

COST OF BUILDING (including equipment): $60,000.
Generators: Motiograph, Inc.
In-Car Speakers: Motiograph, Inc.
Lenses: Kollmorgen Optical Corp.

Projection Lamps: Strong Electric Corp.
Sign & Marquee: J. F. Dusman Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: Motiograph, Inc.
Supply Dealer: J. F. Dusman Co.

VILLAGE DRIVE-IN •

Santa Rosa, Calif.

Adapting its design to fit that of the surrounding homes and shopping center, the Village is one of the finest drive-ins constructed in 1952.

An unusual feature is that the entrance, boxoffice, concession and projection buildings are all linked to the main building by means of a covered walkway. Giving a ranch-like appearance, the buildings are made out of heavy timbers, used brick, and redwood siding left rough to add to the rustic flavor.

The concession building has a glass wall which permits patrons to view the screen while making purchases. Projection booth is on top of the building. Flood lights atop the booth light the entire field. Being illuminated this way the light shines on back of cars, and eliminates lights shining into patrons' eyes during breaks.

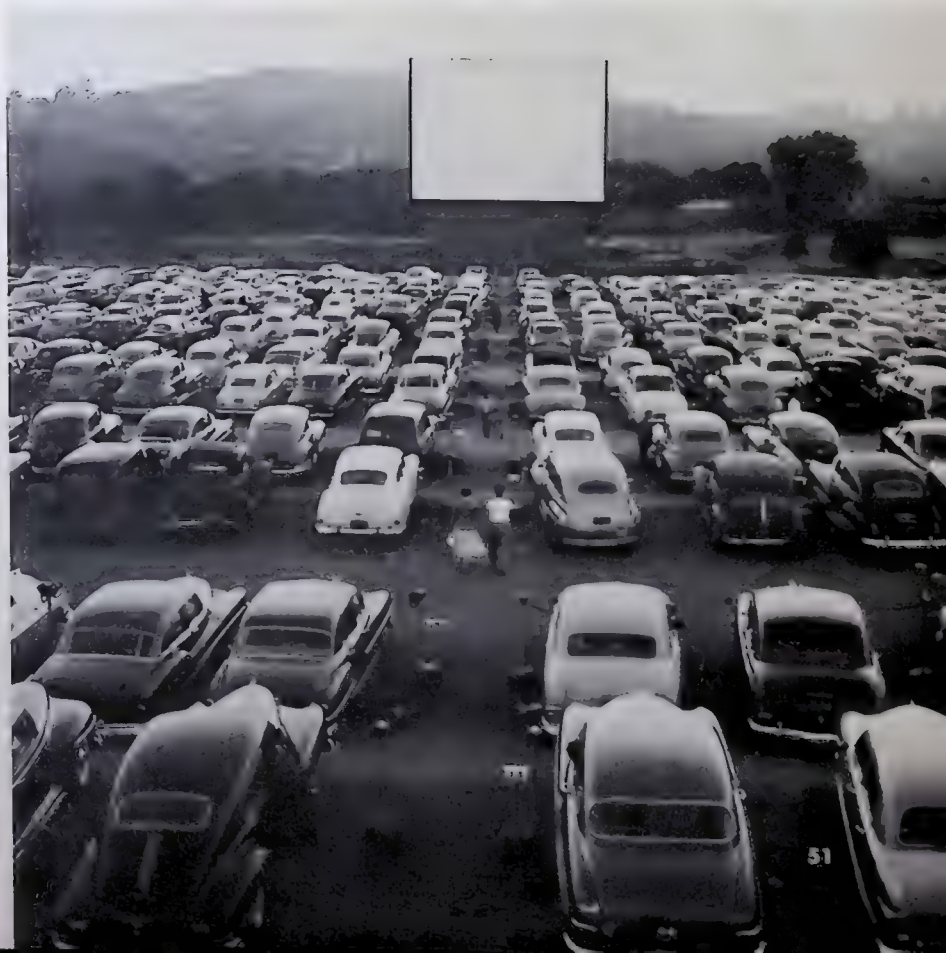
The elevated projection booth and a very low projection angle makes it possible to use a non-tilting screen. Since the angle of incline is only three degrees there is no keystone.

THE "L" SHAPED concession counter above has a 180 square foot preparation room as a core. Special louver construction contains recessed illumination so counter is brightly lighted without disturbing patrons. Below can be seen some of the 750 cars that can fill the theatre. Note the plumb screen tower which receives a 48 by 60 foot image from a distance of 540 feet.

REFERENCE DATA

OWNER: George M. Mann.
OPERATOR: Trinity Theatres, Inc.
DESIGNER: Gale Santocono.
CAR CAPACITY: 750.
COST OF BUILDING: $78,000.
COST OF EQUIPMENT: $26,000.

Decorator: Gale Santocono.
Display Frames: Theatre Specialties, Inc., Aluminex.
Film Cabinets: Goldberg Bros.
Generators: Hertner Electric Co.
In-Car Speakers: International Projector Corp., Simplex.
Lenses: Kollmorgen Optical Corp., Super Snaplite.
Projection Lamps: National Excelite.
Projection Machines: International Projector Corp., Simplex X-L.
Rewinders: GoldE Mfg. Co.
Sign Letters: Theatre Specialties, Inc., Bevelite.
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: National Theatre Supply.
Ticket Issuing Machine: General Register Corp.



FOREST HILLS DRIVE-IN •

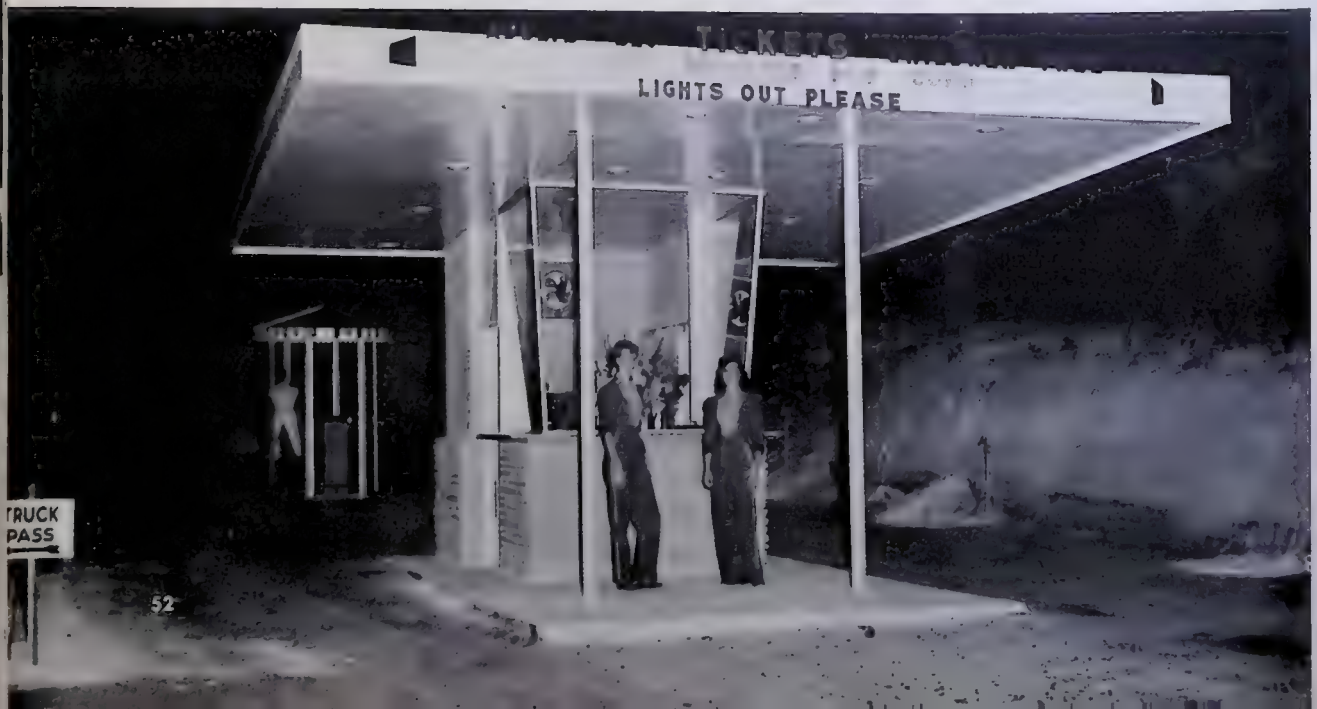
Augusta, Ga.

Opening to the public April 15, 1953, this sleek 600 car outdoor theatre offers the people of Augusta fine entertainment in ideal surroundings.

The well equipped cafeteria style snack bar building is made out of wood, steel and concrete block. The floor is terrazzo. Atop the building is the projection booth. There was a liberal use of glass which enables the operator to get a full view of the entire field.

The boxoffice is made of concrete block and stucco on side walls, with crab orchard stone. Roof is made of steel and marine plywood, and has indirect lighting to avoid glare.

A unique traffic control system makes use of three light locations which help to guide the cars.



REFERENCE DATA

OWNER: Donald D. Boardman.
OPERATOR: Mermyn A. Sargent.
ARCHITECT: Boardman-Sargent.
CAR CAPACITY: 600.
COST OF BUILDING: $150,000.
SIZE OF LOT: Approx. 11 acres.

Generators: Hertner Electric Co.
In-Car Speakers: RCA.
Lenses: Kollmorgen Optical Corp., Snaplite fl.9.
Playground Equipment: American Playground Devices Co.
Projection Lamps: National Excelite.
Rewinders: GoldE Mfg. Co.
Sign & Marquee: State Neon Design.
Sign Letters: Wagner Sign Service, Inc., 10″ Green, 17″ Red.
Sound: RCA.
Supply Dealer: Southeastern Theatre Equipment Co.

BEL-AIR DRIVE-IN •

Detroit, Mich.

Representing a total expenditure of almost $400,000, the 1800 car capacity of the Bel Air makes it one of the largest outdoor theatres presently in operation. In addition to its other excellent facilities, the drive-in can boast of having one of the best equipped kiddie playgrounds.

REFERENCE DATA

OWNER: Belair Theatre Co.
OPERATOR: Community Theatres.
ARCHITECT: Ted Rogvoy.
CAR CAPACITY: 1800.
COST OF BUILDING (exclusive of land): $250,000.
COST OF EQUIPMENT: $125,000.
SIZE OF LOT: 40 acres.
Generators: Hertner Electric Co.
In-Car Speakers: International Projector Corp.
Playground Equipment: Miniature Train Co.
Projection Lamps: J. E. McAuley Mfg.
Projection Machines: International Projector Corp.
Sound: International Projector Corp.
Supply Dealer: National Theatre Supply.

THE SPOTLESS, CANDY STRIPED SNACK BAR presents a colorful and appetite-tempting picture. The 75 by 75 foot all-steel screen tower is the background for the kiddie playground which is equipped with a miniature train ride. Projection booth has attractive planting area in front.

SIOUX DRIVE-IN •

Pierre, S. D.

Located on a roomy 10 acre site, this 475 car capacity drive-in is combined with a drive-in sandwich stand. There are two parking lots, one for the stand, one for the theatre. Both use a common entrance and exit. The caretaker's apartment and the manager's office are to be found on the roof of the sandwich stand.

REFERENCE DATA

OWNER & OPERATOR: Leo and Dan Peterson.
ARCHITECT: Associated Design.
CAR CAPACITY: 475.
COST OF BUILDING: Approx. $20,000.
COST OF EQUIPMENT: $15,000.
SIZE OF LOT: 10 acres.

Film Cabinets: Goldberg Bros.
In-Car Speakers: Autocrat.
Lenses: Kollmorgen Optical Corp., Super Snaplite fl.9.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: Century Projector Corp.
Rectifiers: Strong Electric Co.
Rewinders: Goldberg Bros., automatic.
Sound: Century Projector Corp.
Supply Dealer: Minneapolis Theatre Supply Co.

Flex-Sheet Mirror for Decorative Lustre

Available in a Wide Range of Tints and Patterns, This Product Fits into Any Desired Color Scheme

Mirrors have long been a favorite medium of the decorator and designer. Imparting an illusion of space, lending glamourous brilliance, and creating an air of luxury, mirrors offer a virtually unlimited scope in the planning of dramatic decorative effects.

Decorating with Flex-Sheet

The already wide range of mirror applications for achieving distinctive new effects throughout the theatre has been widened even further with the development of a versatile material called Flex-Sheet Mirror. As its name indicates, Flex-Sheet Mirror consists of blocks or strips of mirror mounted on a cloth backing to form a flexible sheeting. Because Flex-Sheet bends both concavely and convexly, it is adaptable to a large variety of installations. Any arched, fluted, or terraced ceiling becomes a logical surface for the application of the product, and panels on lobby walls, concave wall recesses, the boxoffice, confection stand, and attraction signs give ideal opportunity for Flex-Sheet decorations.

Flex-Sheet Mirrors are made of a high quality glass, backed with lead for lasting brilliance. After cloth is applied to the back of the uncut mirror, the desired square or rectangular tile shapes are cut, and the edges specially processed to give added lustre and to eliminate chipping. Cloth used for backing is a very stretchable cotton material, which makes fitting around columns and other curved surfaces a simple matter.

Available in four styles—metal leaf, white mirror, colored mirror, and dewdrop—and 15 colors, appropriate types of the decorative material can readily be selected to blend with almost any type of architectural treatment or color scheme. In manufacturing the leaf type sheeting, gold or aluminum leaf is applied to the back of the glass instead of the conventional mirroring material, giving a luxurious metallic effect. The white mirror type is made the same as any other mirror, while the colored mirror is tinted glass with the usual silvered backing. The dewdrop type of Flex-Sheet, also tinted glass, has a shimmering, stippled appearance, the glass having been processed in the molten state to produce irregular indentations on the back surface. The indented surface is then silvered, filled in, and covered with the cotton mounting cloth.

Colors

The leaf type Flex-Sheet is available in either gold or aluminum, as noted; plain mirrors are obtainable in white, white deluxe, gun metal, or blue; colored mirrors may be had in rose, light gold, gold, or green, and the dewdrop pattern comes in white, light blue, ruby red, champayne, and sea green. White, blue, and gun metal in the plain mirror finish are approximately 1/16" thick, while white deluxe is about 3/32". Rose and gold tinted glass varies slightly from the 1/16" thickness, and the dewdrop pattern is rolled to an approximate thickness of 1/8".

BRIEF: ***Flex-Sheet Mirror . . . a distinctive decorative material made of mirror or dewdrop glass tiles fastened to a fabric backing . . . and applied to flat, convex or concave surfaces with a special cement . . . extends the range of glamourous effects that may be achieved by designers and decorators. Simply installed . . . and easily maintained . . . Flex-Sheet can be used to advantage on facades, candy counters, display signs, round or square columns, walls or ceilings . . . giving the brilliance and attractiveness which is essential to theatre decoration.***

Sizes

While the glass tiles may be cut to special sizes, the standard cuts measure 1" x 1", ½" x 2", 1" x 2", 2" x 2", 2" x 4", and 4" x 4" or larger, up to 10" x 10". Tiles measuring ¼" x ¼" may be had at extra cost. Of all the sizes, ½" x 2" and 1" x 1" are the most popular. The material comes in sheets 19½" x 19½", and is bought by the square foot, with each standard sheet having 2.64 square feet.

Suitable Surfaces

Flex-Sheet Mirror may be applied satisfactorily to plaster walls, Transite, plywood, steel, presdwood, tempered board, marble, or decorative tile. Plaster walls must be dry and smooth, and, as a perfectly level surface is required, rough or sand finished plaster is not suitable, and commercial plaster should be rodded and true if Flex-Sheet is to be applied to it. For exteriors, a good surface is Portland cement and sand plaster, rodded and troweled smooth; Transite or its equivalent, or Weldwood resin-glued plywood. If the existing wall is brick, structural tile or the like, it must first be surfaced with cement plaster.

Outside installation of Flex-Sheet where it is subject to direct contact with rain, snow, wind, and heat is not recommended. However, it may be used under marquees, in the boxoffice, and at other such protected locations. Where Flex-Sheet is to be used on exteriors, it is specially processed at the factory to make it more resistant to weather. If

THIS SPARKLINGLY COLORFUL BACK bar of the concession stand in the Guyan, Logan, West Virginia, attracts the patron's eye and adds sales appeal because of the tasteful use of Flex-Sheet Mirror.

the exterior surface is cement plaster, defects must first be pointed up and sanded smooth, and one coat of Flex-Sheet Mirror Primer applied. One gallon of primer covers about 300 square feet of surface.

Flex-Sheet should not be applied over solid lumber, for even kiln-dried lumber will warp with the mirror sheeting cemeted to one side, and serious damage to the decorative facing will result. For this reason, soft insulation board also is unsatisfactory.

Preparing the Surface

For best results in installing Flex-Sheet, it is essential that the surface to which it is to be applied be perfectly smooth, and, in many cases, the surface will require careful preparation. If the surface is plaster, all holes and cracks must first be pointed up with Swedish putty or spackle, then sanded to remove grit and provide an even face. Wallpaper, calcimine flat paint, or flaked paint must be removed. Lead and oil paint which is securely bonded to the plaster need not be removed, but the paint should first be tested to see that the Flex-Sheet Mirror Cement, which holds the strips of mirror in position, will adhere to it firmly. After the wall is prepared, one coat of Flex-Sheet Mirror Primer is applied to it.

With paneled walls, it will be necessary to point up all joints and line the panels up true and smooth. If the surface is tile, special care must be taken to have the pointing or spackle coating make a true, uniform surface. Plywood, being absorbent, must have one coat of primer when used for exteriors; for plywood used indoors, any good sealer is satisfactory. Flex-Sheet is applied to the rough side of plywood and presdwood. Steel, presdwood, tempered board, and other non-absorbent materials do not need a primer coat. The purpose of the primer is to prevent the essential waterproofing ingredients in Flex-Sheet Mirror Cement from being absorbed into

ARTISTIC LOBBY CORNER of the Royal, Detroit, Michigan, features Flex-Sheet on a curved surface.

the surface to which the mirror sheeting is applied. It is necessary that these waterproofing ingredients be fully absorbed only in the cloth backing of the sheeting. While various types of primers may be used on some surfaces, only Flex-Sheet Mirror Primer is recommended for plaster, cement plaster, or Transite.

Surfaces of metal, tile, marble, or similar materials will require prior scrubbing with sal soda, using a stiff brush, to remove all traces of grease or oily deposit, and drying with a clean cloth.

The installation of Flex-Sheet Mirror is so simple that any reasonably skilled mechanic should be able to produce highly satisfactory results. All the tools needed for the job are a steel scraping knife, a steel straight edge for use in cutting, a sharp knife for cutting, a supply of cotton cloth, a glass cutter, a stock of No. 116 300-grit carborundum stone, and a solid table at least 24 inches square.

In unpacking and in subsequent handling of Flex-Sheet, be sure the sheet bends toward the cloth side, as bending against the glass might cause chipping.

Application

Plan a wall application so that any cutting of the glass will come at an edge or other inconspicuous place. Make a plumb line and apply the first sheet of Flex-Sheet Mirror carefully so the horizontal and vertical joint lines are right, then adjust each additional sheet accordingly. Flex-Sheet, being extensible and compressible in each direction, permits adjustment of each sheet as it is applied to allow for surface irregularities. It does not matter whether the application begins at the bottom or top of a wall.

The first application step is to apply Flex-Sheet Mirror Cement uniformly over the cloth side of the sheeting, using a stiff brush or scraping knife. This cement is a water-resistant adhesive designed specially for use in applying Flex-Sheet Mirror. One gallon will cover about 55 square feet of surface. The cement coating should stand slightly above the cloth so that a good transfer of cement will be made to the wall or other surface. For porous surfaces, a heavier coating is required than for application to steel or other impervious surfaces, but too much cement will cause a squeeze-out between sheets or between the individual tiles on each sheet. Should this happen, any excess may be wiped off with clean cotton cloth.

In applying the cement, be careful not to slop it over the edge of the sheet as it lies glass side down on the work table. Strike off the cement at the edges of the sheet, and wipe each edge clean so that no cement or dirt can lodge between sheets during application. (Figure 1.)

To apply, pick up the sheet of Flex-Sheet Mirror, holding it at the corners, align it properly to the plumbline, and set by pressing firmly over the entire sheet area with a wad of cotton cloth. Push each additional sheet tight against the others with the palm of the hand to make any necessary adjustments. The cement has sufficient "tack" to hold the mirror in place, and propping or additional pressure of any kind is not required. The cut lines on one sheet should line up with those on the others to produce a workmanlike result. Sliding a round-edge board or a wide roller over the glass will help make good contact with the wall.

As work progresses, check which sheets have been up 10 or 15 minutes, and make any corrections in alignment before the cement sets too firmly. Should it be necessary to remove sheets, pull them off squarely, being careful not to tear the fabric backing; do not remove sheets in a rotary or scouring manner. Removal of sheets after the cement has set and hardened, while difficult, may be facilitated by heating the Flex-Sheet Mirror with a very hot electric hand iron until the cement softens.

Corners

How to treat inside and outside corners which have no moulding is shown in Figures 2 and 3.

Columns

In applying Flex-Sheet Mirror to columns, first determine the amount necessary to go around the column by actually placing the sheeting in position around the column before the cement is applied. In the case of small columns (less than five inches in diameter), it may be necessary to cut the glass as shown in Figure 4. Normally, however, it is possible to cut the sheet with the exact number of tiles required.

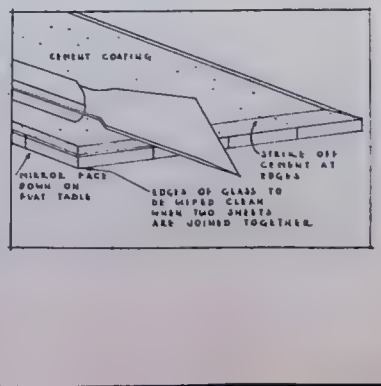
In some instances, on columns as well as flat surfaces, an exact number of units will be just slightly too big or too small. Determine this before applying the cement, then cut the Flex-Sheet Mirror to the "just too small" size, and bend very slowly stretching the cloth between each tile. This should be done with extreme care so as not to chip the edges of the glass.

Metal moulding used in connection with Flex-Sheet should have an opening slightly greater than the thickness of the glass, that is, ⅛" for mirrors, and ¼" for dewdrops. Nail-on mouldings are preferred and should have the thinnest possible nailing flange to prevent changing the angle of the face of the Flex-Sheet Mirror covering the flange.

Installation on Ceilings

Cut a piece of Celotex board just slightly smaller than the Flex-Sheet Mirror sheet, then place the Flex-Sheet on the Celotex board, glass down. Apply cement to the cloth side, then, using

FIG. 1. Cement is scraped off at the edges of each sheet, indicated in sketch below, and wiped clean.



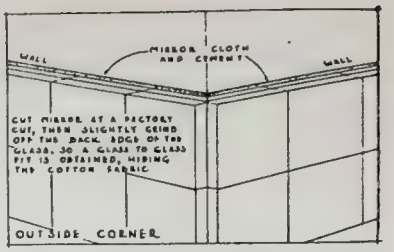


FIG. 2. Outside corner application is illustrated.

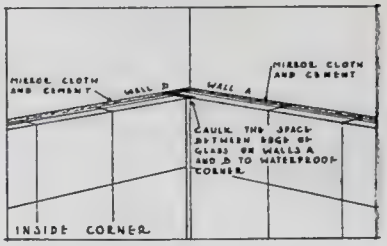


FIG. 3. Inside corner application is seen above.

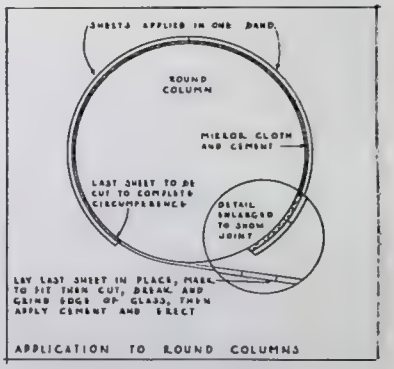
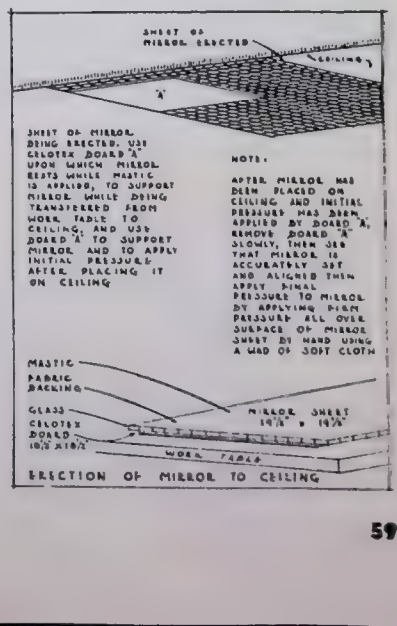


FIG. 4. Application to round columns is shown. Sheets are measured carefully before cementing.

FIG. 5. Installation on ceilings is illustrated below. Experience proves this to be most successful.



the Celotex board to support the glass, press the glass to the ceiling with enough pressure to make it stay in place. Remove the board slowly, seeing that the mirror is properly placed and aligned, then apply final pressure to the mirror by firmly pressing all over its surface, using a wad of cloth, Figure 5.

Flex-Sheet and Wallpaper

If you desire to use wallpaper adjoining Flex-Sheet, apply primer to the wall to within ½" of the wallpaper edge, then apply cement to the Flex-Sheet to within approximately 5/8" of the edge of the glass. Then install the mirror so that it overlaps about ½" from the edge of the wallpaper. Extreme care should be taken not to use too much cement, as it will spread and stain the paper, Figure 6.

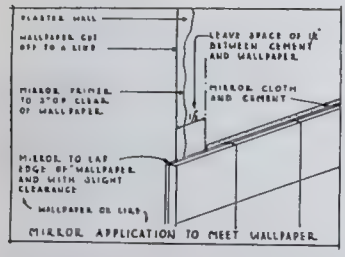


FIG. 6. Application to meet wallpaper is indicated above. It is best not to use too much cement.

Cutting Glass

When it is necessary to cut the glass itself, use an ordinary steel wheel glass cutter and a straight edge. After making the cut, break the glass carefully and cut the fabric backing. Then grind the edges of the glass with a carborundum stone. Angular or circular cuts for fitting around outlets of fixtures are simply made by the same procedure, Figures 7-8.

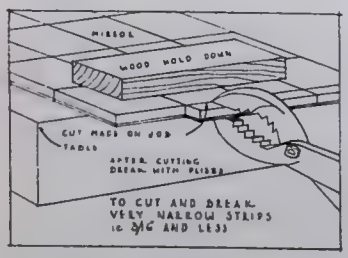
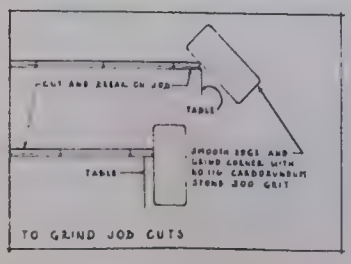


FIG. 7. Cutting narrow strips is sketched above.

FIG. 8. The grinding of edges is illustrated below.



If there is an exact number of units to be cut from the sheet, simply fold the sheet, cloth to cloth, and cut along the joint with a knife, cutting from the inside out. Be sure to keep the cutting knife sharpened to prevent a strain on the silvering of the mirrors, and to avoid fraying of the cotton backing.

Maintenance

One of the advantages of Flex-Sheet Mirror is that it requires but a minimum of maintenance. Wiping with a cloth slightly dampened with glass wax or any glass cleaner is all that is necessary to retain its brilliant appearance.

Flex-Sheet is not recommended for installation in parts of the theatre where it can be kicked or otherwise "worked on" by the public. However, it will serve quite satisfactorily, mounted on corrugated Transite, for the fronts of candy stands having a recessed kick rail extending perhaps six inches or more above the floor.

Should glass tiles be broken at any time, repairs can easily be made with but a single-edge razor blade and a knife or screw driver. The cloth backing of the broken tile is cut with the razor blade, the damaged piece is pried out from the wall with the knife or screw driver, and a new glass unit is cemented in its place.

Theatre Installations

The distinctive beauty of mirror sheeting has been recognized by many theatre owners, as well as operators of cocktail lounges, hotels, restaurants, and other establishments where attractiveness is an important factor in winning patronage. One of the most notable installations of Flex-Sheet is at the Royal, Detroit, where two concave panels, each measuring 20 feet high and 10 feet across, are surfaced with 1" x 2" gold mirror tiles, and lend an elegant touch to the lobby. At three Chicago houses, the North Shore, B & K, the Grenada, ½" x 1" champagne dewdrop Flex-Sheet Mirror, mounted on corrugated Transite, brings appropriate glamour to the candy stands. The Valentine, Evanston, Ill., has a huge panel of 1" x 2" blue Flex-Sheet Mirror as an extremely decorative background for its automatic drink dispenser. Many theatres have taken advantage of the brilliance of Flex-Sheet to add glitter to wall-mounted attraction signs in their lobbies, with the sheeting used both for background and border in the signs. Other houses have installed Flex-Sheet as a sparkling background for the changeable letters on their under-the-marquee attraction boards.

As with any such versatile, colorful decorative medium, the possibilities of Flex-Sheet Mirror are limited only by the imagination of the decorator. With the glittering, glamorous effects it makes possible, Flex-Sheet is a product which is particularly well suited to theatrical use, and one which is worthy of consideration when planning the decor of a new theatre or modernizing the decorative treatment of an old one.

THE APPEAL OF THIS FRONT is richly enhanced by Flex-Sheet Mirror, used above the entrance. A minimum of maintenance is required in order to retain the brilliant beauty of this decorative product.

Washable Wall Covering

A New Development in Wall Covering Brings Lasting, Washable Beauty to Theatre Walls

Maintenance time and expense — one of the big bugaboos plaguing every theatre manager — can now be lessened considerably due to the development of an entirely new and different type of vinyl plastic wall covering.

Bolta-Wall, as the new material is called, is a washable, decorative wall covering that is designed to withstand the wear and tear which normally occur in public places. Highly resistant to scratching, scuffing, snagging, fading and staining, Bolta-Wall is formulated to provide years of service and requires only a periodic cleaning with a damp cloth or sponge.

Developed by Bolta Products Sales, Inc., of Lawrence, Mass., one of the country's leading plastic manufacturers, the new Bolta-Wall material has a vinyl plastic face sheet which is pressure-laminated to a firm rubber-saturated backing. This unique construction provides greater strength and durability. The material is dimensionally stable with the result that seams resist shrinkage. When Bolta-Wall is properly applied, seams are barely visible, and they remain this way throughout the life of the wall covering.

THE ATTRACTIVE display of Bolta-Wall shows the leathergrain finish used as a wainscot topped by the textured, three-dimensional bamboo pattern. This washable product may be used in lounges.

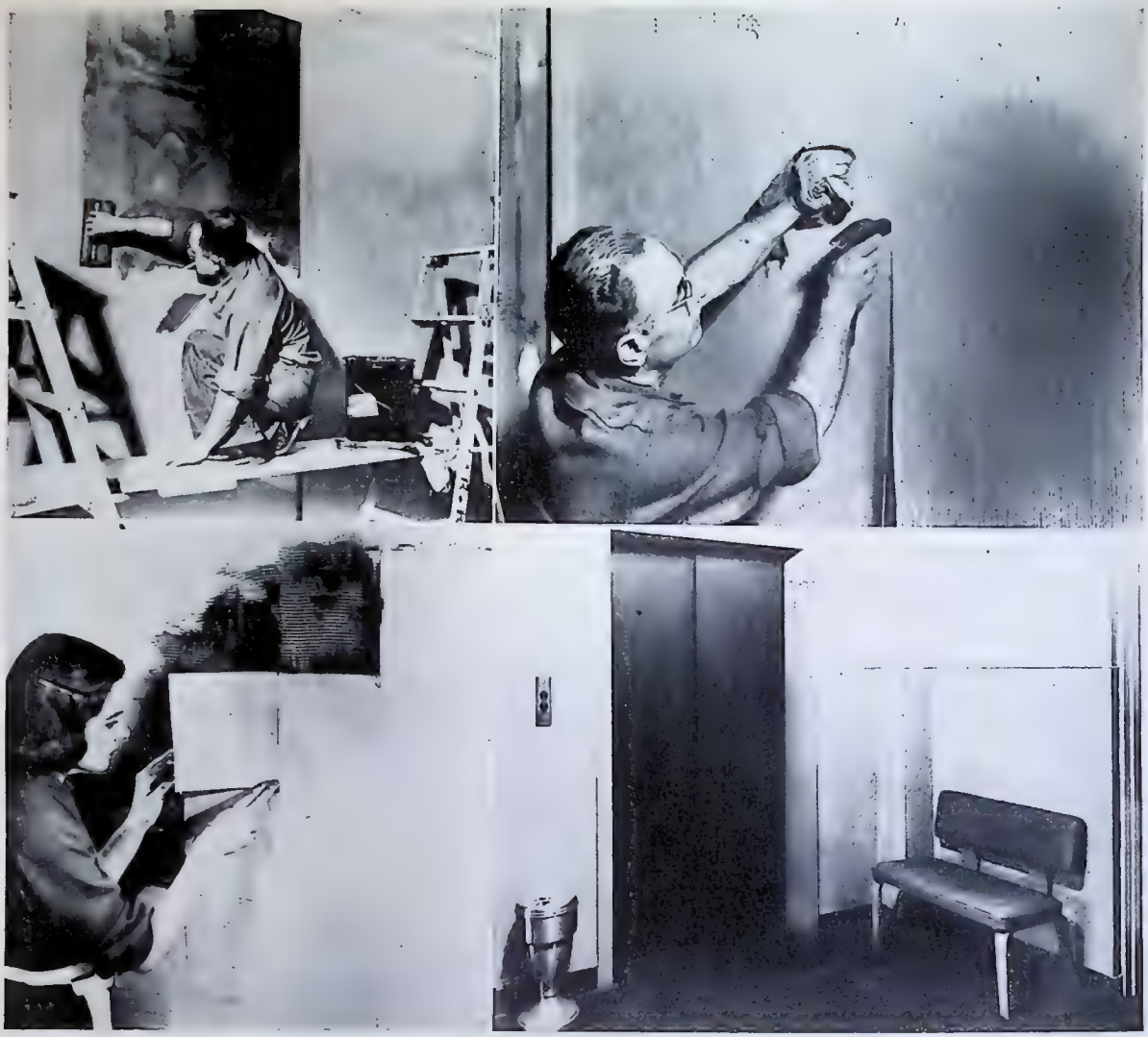
BRIEF: ***Described in this article is a new surface-textured and easy-to-install wall covering made of Vinylite resins . . . and which has been designed to decorate and protect walls in homes and institutions . . . such as motion picture theatres . . . Through a unique process . . . this decorative surface is laminated to a firm rubber-saturated paper backing . . . This product is the result of several years of research and experimentation . . . One of the major obstacles overcome was the staining usually caused by the presence of sulphur in the air . . . or in water . . . Found in this article is a discussion of the various styles in which this wall covering material may be had . . . how it is made . . . how it is used . . . and suggests a number of areas in a theatre which might benefit from using this new material.***

Face sheet of the new Bolta-Wall material is .011-inch - .013-inch thick, or approximately six times thicker than the coatings used in most waterproof wallpapers, while the backing is .025-inch - .030-inch thick. This heavyweight material has many advantages for the theatre manager. It gives him a thick, wear-resistant wall covering that provides maximum protection against the scratches and scuff-marks which youngsters often inflict on walls; it also provides against snagging and marring which might be caused by furniture or mobile equipment.

Guaranteed by its manufacturer, Bolta-Wall will not crack, chip, flake or become brittle with age. It is highly resistant to greases, fats, oils, alcohol, detergents and similar chemicals. Smudgy, candy-coated fingerprints wipe off as easily as ordinary dust and grime.

The material has been thoroughly tested in the Bolta laboratories and also in independent laboratories. Recently, it passed fire-tests conducted by the New York Testing Laboratories, Inc., and has been classified as fire-retardant material.

Ideal for lounge, lobby, office, restrooms or the main part of the theatre, Bolta-Wall is currently available in two decorative patterns. The Leathergrain Finish has the surface texture of a fine leather and harmonizes well with leather-like plastic seating, such as Bolta's top-grain finish Boltaflex. This pattern is available in fade-resistant colors of dark green, light green, brown, chartreuse, yellow, tan, buff, dark red and grey. The Bolta-Wall Bamboo pattern has a textured, three-dimensional appearance and comes in natural, grey, light green and tearose.



THE TWO TOP pictures show Bolta-Wall being installed by a professional. When expertly applied the seams are almost invisible. BELOW (left) demonstrates how an amateur may apply this product. On the (right) is an area done in Bolta-Wall leathergrain finish, it has texture of leather.

Professional Installation

Easily applied to old or new walls, Bolta-Wall may be installed over almost any interior wall surface provided it is solid, firm and in generally good condition. Architect's specifications approve installations on the following surfaces: Smooth plaster, ⅜-inch plasterboard or better, ⅜-inch plywood or better, 5/16-inch plyscore CD 1 good or better, 3/16-inch tempered or ¼-inch untempered hardboard or better or other surfaces approved in advance by Bolta according to specific instructions as to preparation of the wall surface. Bolta-Wall should not be applied over water base paint or over wallpaper.

Ordinarily, the wall surface requires little advance preparation. Porous walls should first be sized using Bolta-Wall size, or a good quality shellac. The wall surface itself need not be absolutely smooth as the thickness of the material provides excellent hiding power and the "cushioned" backing helps absorb surface roughness.

Designed for professional installation, Bolta-Wall comes in rolls, 25 yards long, 48 inches wide. It is now available through the specialty floor covering field where professional mechanics install the material using a special slow-drying adhesive that permits the mechanic to work most efficiently.

Seams are made by applying the Bolta-Wall so that it overlaps, and then cutting through the center of the overlap and stripping away excess material. Both edges are pulled away from the wall and fed together, producing an almost invisible joint.

BOLTA WALL-TILE

Another form of Bolta-Wall, known as BoltaWall-Tile, is available for either amateur or professional installation. Made according to the same formula used in producing Bolta-Wall, the Bolta Wall-Tile has all of the same durable characteristics. However, it is sold in handy eight-inch squares as opposed to the Bolta-Wall roll goods, and is available in the Bamboo pattern only. The textured surface of this pattern permits unusual decorative effects. The material is applied so that the surface grain of each successive tile is alternated, giving the appearance of genuine wood parquetry. Unlike textured wood, however, the Bolta Wall-Tile requires no further finishing.

Although designed primarily for do-it-yourself installation by the homeowner, Bolta Wall-Tile makes a very presentable wainscot and can be used to advantage in various parts of the theatre. The manager may purchase it on an installed basis or apply it himself if desired.

The first flexible wall tile ever developed, Bolta Wall-Tile may be cut with a pair of scissors. It can be curved

around sharp corners without cracking. All necessary tools and instruction manual are available in a Bolta Wall-Tile installation kit which is carried by all dealers selling the tiles. Other accessories such as the Bolta-Wall Size #127, adhesive, corner stripping and a special colored filler designed to conceal minor errors in workmanship are available from the same dealer.

Application of Bolta Wall-Tile

Bolta Wall-Tile may be applied to the same wall surfaces as Bolta-Wall with the exception of areas where it would be exposed to constant water splash or spray. In these areas, Bolta-Wall installed by a professional mechanic using a special method of sealing and trim is recommended.

For the theatre, Bolta Wall-Tile makes a modern and practical wall covering for lobby or lounge. (The material may also be applied to ceilings.)

In planning the installation of Bolta Wall-Tile, the following procedure is recommended. Measure up the wall from the lowest point of the baseboard to the desired height such as 32 inches, 40 inches, 48 inches. (Height should be a multiple of the tile size.) From this point, snap a chalk line, using a bubble level to make the line absolutely level. From the center of this line, step off 8-inch spaces using one tile as a marker. If the last opening is less than 4 inches, shift center mark so as to leave as large a tile at each corner as possible. Once the center line is determined, drop a chalked plumb bob line and snap as a guide for the first row of tiles.

When corner stripping is used, plan to apply the stripping first and work from the center of the wall area toward the corners. Once the position of the first row of tiles is determined, apply one or two gobs of the Bolta-Wall adhesive using the notched spatula in the tool kit. Spread the adhesive with the notched trowel, holding trowel at right angles to the wall for proper distribution. When adhesive is applied sparingly, a smooth lump-free installation results.

Embed the first tile firmly in the adhesive being sure to level accurately at level line. Place adjoining tile tightly against the first, making sure to alternate the tile direction each time to produce the "checkered" or parquetry effect. Do not slide tiles in place as this causes adhesive to ooze out.

To mark a tile that must fit into an irregular space, first wipe the wall area clean of adhesive. Place a whole tile exactly on top of the nearest adjacent whole tile. Using a second tile as a gauge, mark the loose tile with a pencil. Cut along the pencil mark and try the piece for size.

As adhesive begins to set up, rub the surface of the tiles with a damp rag or sponge and wipe dry with a clean dry cloth. Joints between tiles and between door casings, baseboards, window casings, etc., may be concealed by applying Bolta-Wall colored filler using a regular putty knife or finger tip. Be sure adhesive is dry before applying colored filler as wet adhesive might tend to discolor the filler. Apply filler sparingly and remove excess with a dry clean cloth. Filler is used for appearance only.

Like Bolta-Wall, the Bolta Wall-Tiles require only a periodic cleaning with a damp cloth or sponge. Use a mild soap if necessary. Never use gasoline, turpentine, paint thinner, cleaning solvents or abrasive cleaners on Bolta-Wall or Bolta Wall-Tiles.

Development of These Wall Coverings

In developing Bolta-Wall and Bolta Wall-Tile, the manufacturer carried on extensive research for a number of years. Already producing vinyl plastic upholstery material, Bolta sought to bring to walls the same washable beauty and durability that their Boltaflex brought to furniture and seating.

Vinyl plastic materials such as these are made up of various ingredients including resins, stabilizers, plasticizers, pigments, etc., that are mixed according to a formula. When the amount of ingredients or a different type of ingredient is used, a plastic formulation with different characteristics is produced.

In experimenting with wall covering, Bolta soon discovered that the formula which makes a fine upholstery plastic does not necessarily produce a suitable wall covering. The company then set about to develop a formula that would overcome the problem of applying vinyl plastic materials to walls.

During this research period, much time and study were given to the matter of dimensional stability. It was obvious that a wall covering should not shrink or expand with age as this would result in open seams or a buckled surface. By using various types of plasticizers, a material was produced that passed the most rigid tests. As a result, Bolta-Wall has dimensional stability to a degree never before attained in plastic wall covering. Plasticizer migration and volatility are apparently zero for there is no loss in weight in the material even when tested at 150 degrees Fahrenheit for thirty days. Seam contraction under test conditions was found to be negligible.

Another major problem which was overcome was the matter of sulphide staining. This represented a danger in those parts of the country where there is sulphur in the air or water. By experimenting with a lead-free stabilizer, Bolta worked out a formula which not only prevented sulphide staining but also gave the material a marked increase in resistance to fading. As a result, Bolta-Wall colors have maximum durability. They have retained their original appearance even under tests which would ordinarily cause loss or extreme fading of colors in vinyl plastic materials.

The blend of ingredients in Bolta-Wall also makes the product highly resistant to damage from such chemicals as greases, oils, kerosene and dilute acids and alkalis. Some materials, of course, will stain Bolta-Wall—no type of plastic is completely stainproof—but most stains can be removed without damage to the decorative surface. It is also unlikely that such staining agents would come in contact with Bolta-Wall under normal usage.

Already installed in homes, offices, institutions and business establishments across the country, the new Bolta-Wall is fast gaining acceptance. Theatre managers desiring walls that keep their attractive appearance and don't have to be re-done each year — walls that are quickly and inexpensively cleaned with water and a damp sponge — may well investigate the possibilities of this new development in wall covering.

ONE END of a huge calender in the Bolta plant, Lawrence, Mass., used in rolling vinyl-Paraplex formulations into sheeting for wall covering. From such machines the Bolta-Wall product emerges.

Dimming Fluorescent Lamps

Theatremen Can Now Make Better Use of the Economical Fluorescent Lamp Because of a Simple Dimming Control

By J. H. CAMPBELL—H. E. SCHULTZ —W. H. ABBOTT
General Electric Company

BRIEF: *It has long been the desire on the part of lighting engineers to find a method for controlling the brightness of fluorescent lamps over a wide range . . . It is the purpose of this article to describe a new system of brightness control which increases the many advantages of fluorescent lighting while retaining circuit simplicity and ease of installation.*

Developed by the General Electric Company . . . this article was prepared by the men who developed this new system . . . and gives a complete discourse on the technical problems involved . . . as well as discussing some of the new uses to which fluorescent lamps may be put in theatres as a result of this new lighting achievement

The many advantages of fluorescent lamps have resulted in widespread acceptance of this light source. Until recently, however, it has been thought impractical to control the brightness of the lamp over a wide range. A new electronic control and ballast to dim fluorescent lamps has increased the flexibility of fluorescent lighting and has added a new tool for many applications. The new system provides the same smoothness of fluorescent brightness control as provided by dimmers for filament lamps.

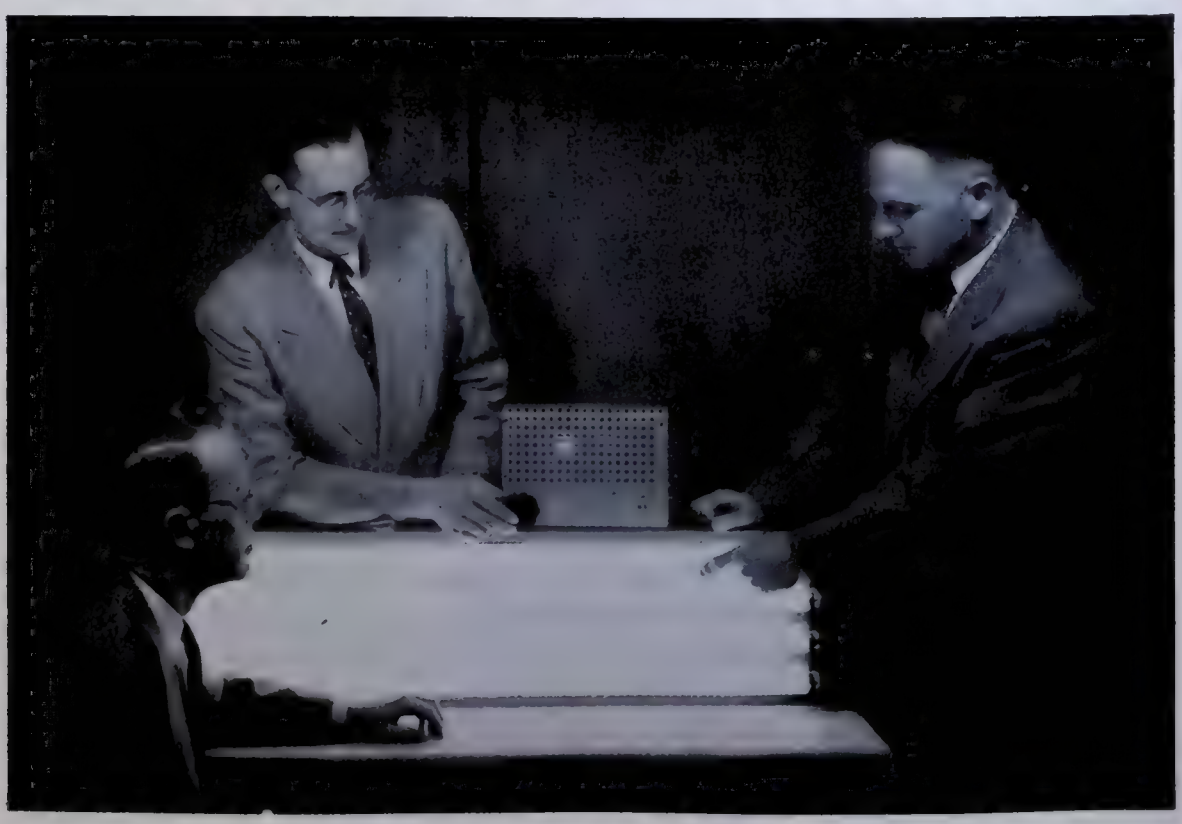
THEATRE USES

Theatre owners and operators will be quick to utilize this new lighting tool. Because it is designed for the 40 watt fluorescent lamp, the complete line of colors can be used. The Deluxe Warm White (like filament lighting) and Deluxe Cool White (like natural daylight) are the best choices for the appearance of patrons and room finishes. The colored lamps — red, gold, green, blue, pink — offer hundreds of combinations for decorative effects in lobby foyer and auditorium. Interesting possibilities are afforded by the highly efficient black light fluorescent lamps, too.

The fact that all of these lamps can be dimmed over a 100 to one range suggests their use for combination intermission and running lights in the auditorium. For example, large luminous panels enclosing Deluxe Warm white, blue, and gold, lamps with recessed downlights between the panels could provide overall intermission lighting. For running lights, the Deluxe Warm white lamps could be dimmed out, leaving blue and gold on in the panels, and the downlights would be dimmed to a suitable level for safe circulation and comfortable seeing.

In the lobby a combination cove or ceiling pattern using one row each of red, blue, gold, and green lamps could be arranged to give an attention getting play of colors. With the gold and green lamps

FLUORESCENT DIMMING SYSTEM four 40-watt lamps connected to experimental dimming control. Left to right, R. T. Dorsey, Nela Park Theatre and Stage Lighting expert—H. E. Schultz and J. H. Campbell of the Discharge Lamp and Accessory Laboratory of Application Engineering where the dimming system was developed. Experimental unit shown would control brightness of any number of 40-watt lamps up to a total of eight. Another control unit slightly larger will operate any number of lamps up to a total of thirty-five. Both units will be available.



on a motor driven control a continuous brightness and color change would be easy to obtain.

In the foyer, a lower brightness, more subtle color change would be an effective decorative feature. Such techniques have been accomplished in the past with filament lamps. This was relatively inefficient because it meant absorbing with filters some of the colors emitted by the lamp to leave the desired color. Fluorescent lamps, on the other hand, convert invisible energy into colored light directly at two to 26 times the efficiency.

The attraction panels on the marquee could also be lighted with a continuous color change for high attention value, plus excellent legibility.

Far-thinking theatre people are looking at the possibilities of keying the whole atmosphere of the theatre to the picture being played. Lighting will be a major consideration in this, as well as in our developments in theatre design already being put into practice. Dimming of fluorescent lamps is an important contribution to the art of lighting for box office appeal.

The dimming system is relatively simple. It requires a 236 volt supply to the control unit; from this unit, three wires are connected to the entire load of lamps and special single-lamp ballasts. The brightness selector consists of a small manually operated pottentiometer which can be located at the control unit, the master control panel or at any other convenient location. Several types of brightness controls can be designed to fit various applications. Automatic control can be accomplished with a selsyn-driven potentiometer to provide control in either direction, or a push-button unit with individual fixed resistors can be arranged to provide any pre-selected brightness. Since the electronic control is independent of lamp load any number of lamps up to the capacity of the unit can be operated. This suggests the possibility of mixed color circuits which can be switched on or off at random without effecting the control or the dimming range.

The new dimming system does not vary lamp voltage; it controls the time during which voltage is applied. Changes in light output result from changes in the length of time that current flows through the lamp during each cycle. Sufficient voltage is present over the entire dimming range to initiate and maintain the arc. Fast starting takes place at any point within the dimming range.

The ballast currently used with the dimming control is designed to operate either switch start or "Rapid Start" 40 watt lamps. Due to the advantages of the "Rapid Start" lamp and ballast, it is anticipated that the ballast will be designed exclusively for "Rapid Start" when this lamp is available in all colors.

TECHNICAL DATA

Methods for dimming filament lamps appeared soon after the lamp was introduced because a change in the applied voltage was the only fundamental requirement. Early methods included the water rheostat, iron wire rheostat and the step control using tapped resistors. Improvements in the smoothness and efficiency of the control were gradually made with the introduction of variable autotransformers and thyratron tubes. The amount of light emitted is directly related to the temperature of the filament so with voltage control the range of brightness can be considered infinite.

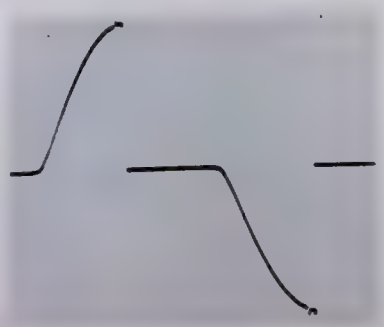
Fluorescent Lamps

Due to the complex characteristics of electric discharge lamps, and associated auxiliary equipment, a relatively narrow range of brightness change is practical with line voltage control. Since the fluorescent lamp has a negative resistance characteristic, it requires a ballast in series to control the current. For stable operation the voltage drop across the conventional reactor ballast should be in the order of the lamp voltage. When line voltage control is used to dim the fluorescent lamp the voltage drop across the ballast decreases with the current. For this reason only a limited decrease can be accomplished before the circuit becomes unstable and the lamp arc extinguishes. This generally occurs at a point where lamp brightness is still 50 percent of normal. Even with this limited range of two to one it is doubtful whether the lamp will start at the low brightness point because starting voltage is reduced in direct ratio.

In applications where it is desirable to have some control of lamp brightness it is possible to operate one lamp on two ballasts of different current rating. For example, a slimline lamp could be operated at 120, 200 and 320 milliamperes by switching between single lamp 120 and 200 milliamp ballasts or by operating the two ballasts in parallel. Since fluorescent lamps become more efficient at low current levels, brightness changes are not in proportion to lamp current so this system produces steps of 100 percent, 75 percent and 50 percent lamp lumens.

One well known control method which has been used to some extent in Europe involves the use of saturable reactors for control of ballast impedance. This system involves a reactor in series with each lamp. The reactors control the a. c. power to the lamps but have d. c. windings connected in series or multiple across a special direct current power supply. The lamp starting voltage is held constant while lamp current is varied by changing the impedance of each reactor ballast through the manipulation of d. c. voltage.

Fig. 1. Operating voltage applied to the lamp circuit for the 90 degree conduction point.



If lamp cathodes are kept hot by means of separate preheat transformers, it is possible to get a wide range of lamp brightness (100 to one or more). This system has the disadvantage of rather complex, expensive wiring and a comparatively large and heavy ballast.

Cold cathode fluorescent lamps can be successfully dimmed by operating a number of lamps in series on a high voltage, high reactance transformer. Dimming is accomplished by varying the voltage to the primary of the transformer. This arrangement does not produce as wide a range of brightness as can be produced with hot cathode lamps, because of the relatively low maximum cold cathode lamp current. The high voltage required to start lamps in series makes it necessary to provide special lampholders to insure safety during maintenance. It also has the disadvantage of poor starting at very low levels of current since voltage available to start the lamps is inadequate.

Circuit and Lamp Requirements

When current supplied to hot cathode lamps is reduced, a point is reached where arc current is inadequate to keep the electrodes at a satisfactory electron emitting temperature. The emission for very low current is then supplemented by ion bombardment. This action strips the cathodes of active material and short lamp life results. In view of this, lamp electrodes must be heated continuously at a temperature which will produce sufficient electron emission at any point in the dimming range.

In order to provide smooth operation the circuit should produce sufficient voltage to start the lamps quickly at minimum as well as maximum brightness. Sufficient voltage must also be available to re-ignite the arc each half cycle to avoid flickering.

Theory of Operation

Control of the lamp brightness is accomplished by adjusting the interval of current conduction during each half cycle of the 60 cycle voltage. Two thyratrons are connected back to back so that the pair of tubes will conduct current for both polarities of the a. c. voltage. These tubes act as a synchronous switch which closes the current at a predetermined point in the a. c. voltage each half cycle and opens at the end of each half cycle. In this way voltage is applied to the lamp for any desired fraction of the cycle. Figure 1 shows the voltage wave applied to the entire lamp load when the interval of conduction is set for 90° or half of each cycle.

The abrupt rise in voltage at the leading edge of applied voltage is used to insure re-ignition of the fluorescent lamp on each cycle. The ballast for each lamp contains a choke which is in series with the lamp to limit the lamp current. Across the lamp is a small capacitor which suppresses radio interference and resonates the sharp voltage rise at the leading edge of the applied voltage to a higher peak value to start and re-ignite the lamp on each cycle. The oscillogram in Figure 2 illustrates this voltage condition.

The point in the cycle at which the thyratron tube begins conducting is con-

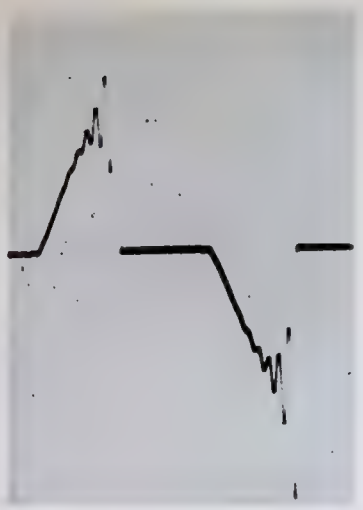


Fig. 2. Open circuit voltage applied to the lamp for the same point as Fig. 1. The high peak voltage is a result of the steep rise on the voltage of Fig. 1, applied to the L-C combination in the ballast. This peak insures starting and re-ignition of each cycle. This oscillogram illustrates this voltage condition.

trolled by the grid voltage. A sine wave, variable in phase relationship to the line voltage is applied to the grid of the tube and the tube will fire or conduct when its plate is positive with respect to the cathode and its grid voltage is essentially zero. Referring to the circuit diagram of Figure 3, each grid derives its voltage from two coils in series, one on T_1, which is constant in voltage and phase, and one on T_2 which is variable in voltage and phase. The sum of these two voltages result in a sine voltage of constant

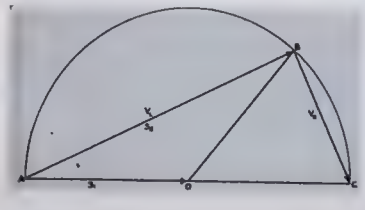


Fig. 4. Vector diagram—grid circuit voltages.

amplitude but variable in phase relationship. In this way the point in the cycle at which the grid is zero volts with respect to the cathode can be controlled.

Figure 4 represents a vector diagram of the grid circuit. Vector AC represent the phase of the applied line voltage. V_L is the voltage of one of the secondaries of T_2 and V_{A0} the secondary voltage on T_1 in series with V_L. V_R is the proportional drop across the total resistance in series with the primary of T_2. The voltage O B is applied to the grids of the tubes properly phased for control. Point B will follow the semi-circular locus as R is varied resulting in complete 180° control of the conduction angle.

The control elements of the circuit are resistors R_5 and R_6 one of which can be adjusted so the lamps will not be taken below the minimum brightness and the

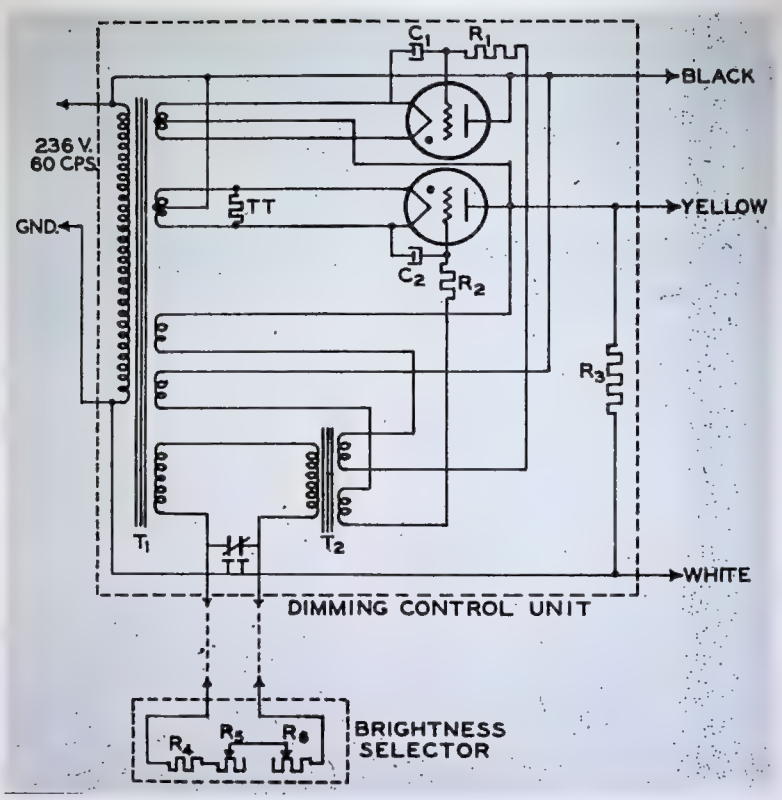


Fig. 3. Circuit diagram of the dimming control. Each grid derives its voltage from two coils in series.

other selects the brightness at any point in the range. Rotating the control, changes the resistance in series with the primary of T_2. Since both tubes are controlled by the secondaries of T_2 this single control regulates both tubes.

A small capacitor (C_1 and C_2) is connected between grid and cathode of each thyratron tube to suppress line surges. Without suppression these surges can cause the tubes to fire prematurely in the cycle giving a flash of light. The resistors R_1 and R_2 are used to limit the grid current to a small value while the grids are positive. R_3 tends to stabilize the lamp operation at very low levels by draining off any residual charge from the yellow line after each pulse of current.

The angle at which the tubes start conduction is a function of the ratio of the sum of R_1, R_3, R_4 and the primary resistance of T_2 divided by the inductive impedance of the primary of T_2.

Figure 5 shows the entire cycle of current waveshape for five ratios of R/X_L (.850, 1.08, 1.32, 1.65 and 1.93). These points correspond to the 20 percent, 40 percent, 60 percent, 80 percent and 100

Fig. 5. Current waveshape corresponding to 20%, 40%, 60%, 80%, and 100% brightness.

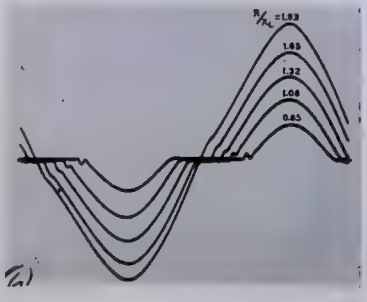


Fig. 6. Light output waveshapes corresponding to points of Fig. 5. Bottom line is zero light reference.

percent light output points. Figure 6 shows the light output wave-shapes for the corresponding ratios of Figure 5. The bottom line of this figure is the zero light reference level. Figures 7, 8, and 9 show the relation of R. M. S. lamp current, average light output and conduction angle versus this ratio of R/X_L.

Lamp flicker at full light output corresponds to single lamp operation with

READING FROM TOP TO BOTTOM IN THE COLUMNS AT RIGHT—Fig. 7 shows the RMS current versus R/X_L ratio. Fig. 8 shows the light output versus R/X_L ratio. Fig. 9 shows the conduction angle versus the R/X_L ration. This angle divided by 180 degrees gives the fraction of the half cycle that voltage is applied to the lamp load.

conventional ballasts. The percentage flicker as measured by photo-cell instruments increases as the lamps are dimmed. However, lamp flicker becomes less apparent to the eye as brightness decreases with the result being essentially the same at low brightness on the dimming circuit as conventional operation at full brightness.

The Distribution System

Referring to Figure 10 only three wires are required to bring power from the control unit to the lamp load. A nominal 236 volt single phase line supplies power to the control. One common and one control line are needed to supply voltage for lamp arc current. The third wire bypasses the control to provide the cathode preheat transformers in the ballast with line voltage thus maintaining constant cathode temperature over the dimming range.

The Lamp Ballast

The lamp ballast consists of a series reactor for arc current control and two isolated cathode windings. The lamp load has a power factor of approximately 50 percent lagging. Correction to over 90 percent can be made by placing capacitors across the line on the input side of the control. Approximately four mfd. per lamp will be required.

Characteristics of Dimming System

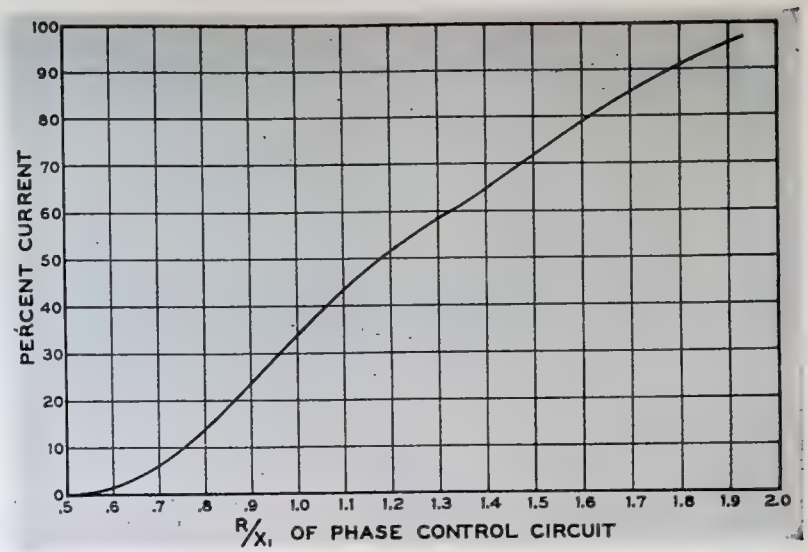
In order to obtain the maximum range of light output, cathodes must be continuously heated. The instant start lamps such as the slimline group cannot be provided with cathode heat and, therefore, the system was designed for 40-watt preheat lamps only.

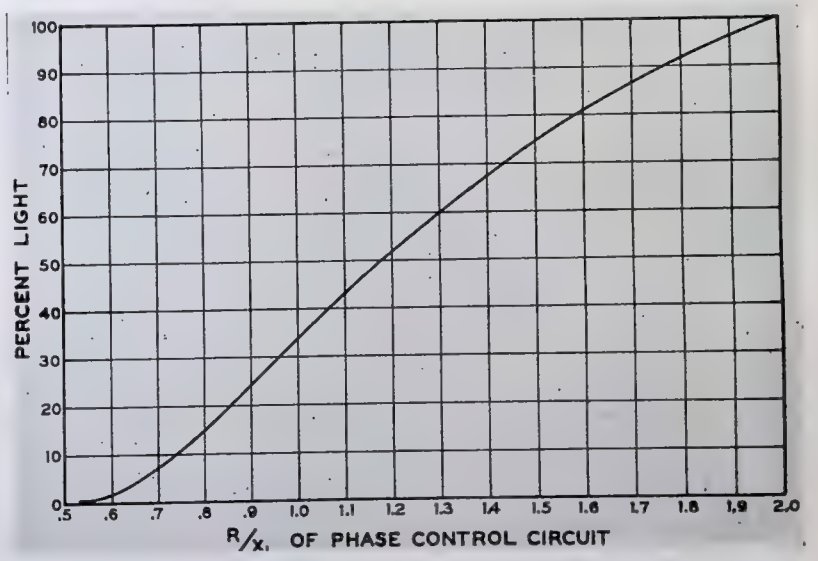
Requirements for Starting

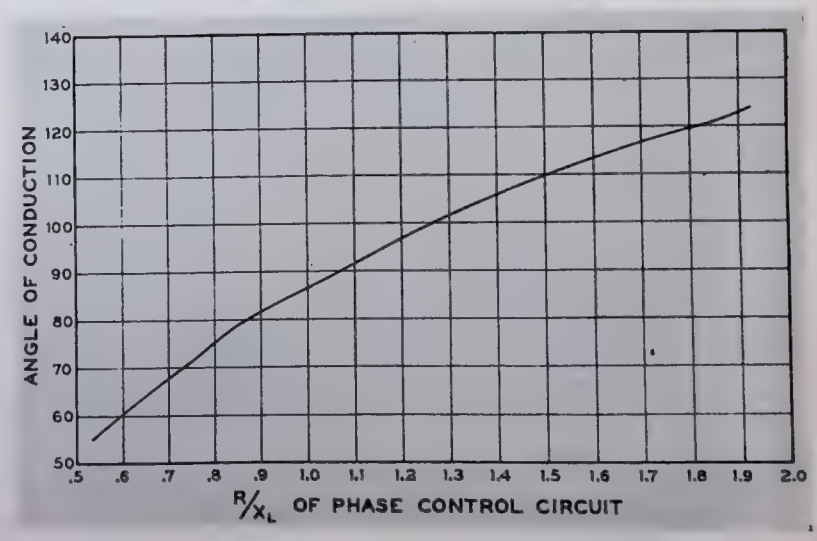
It will be noted in the description of Figure 2 that a peak voltage is supplied to aid in starting the lamps. Since the effectiveness of the peak voltage in starting the fluorescent lamp depends on the capacity coupling from lamp to ground, there should be a grounded metal plate near the lamps; for most applications, fixture bodies or wiring channels will suffice. If open wiring on a wood panel is used there should be a one inch metal strip running the entire length of the lamp and placed approximately ⅜ inches behind the lamp. The strip should then be connected to the grounded line wire through a ½ megohm resistor. Under normal conditions the lamps should start quickly and reliably at any point in the dimming range.

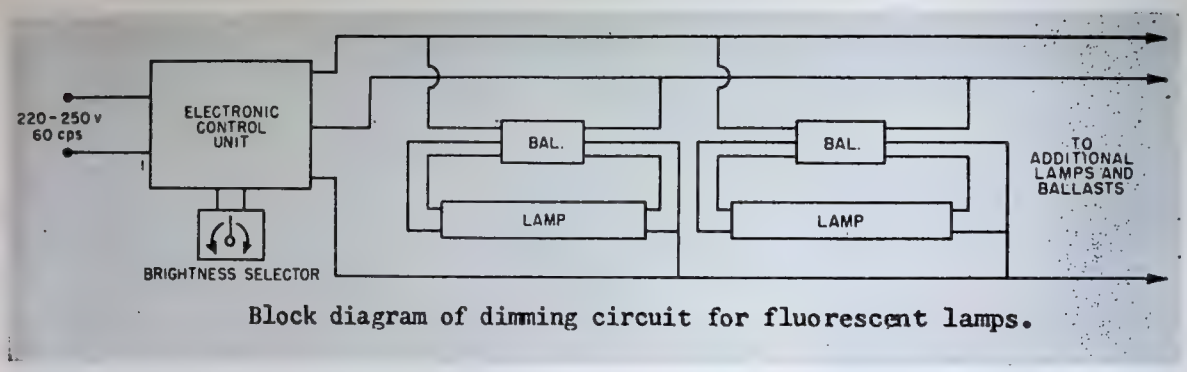
Brightness Range

The system provides for relative brightness varying at least 100 to one. Under optimum conditions of line voltage and ambient temperature, and with well seasoned lamps, the brightness range can be increased to 250 to one. New lamps may not start immediately at the low









Block diagram of dimming circuit for fluorescent lamps.

Fig. 10. Block diagram of dimming system for fluorescent lamps. The control unit may be placed anywhere and two wires run to the Brightness selector and only three wires to the lamp load.

brightness level and it is recommended that these lamps be seasoned at normal brightness for a short time in order to provide the maximum dimming range for all lamps.

COLOR AND EFFICIENCY

Fluorescent lamps on dimming circuits offer several advantages over filament lamps: higher efficiency over the dimming range, lower operating costs, and better color control. Filament lamps become increasingly red as they are dimmed; fluorescent lamps change very little in color over their entire brightness range. A comparison of efficiencies of fluorescent and filament lamps appears in Table I; figures are for color of approximately equal chromaticity, with lamps at their normal brightness.

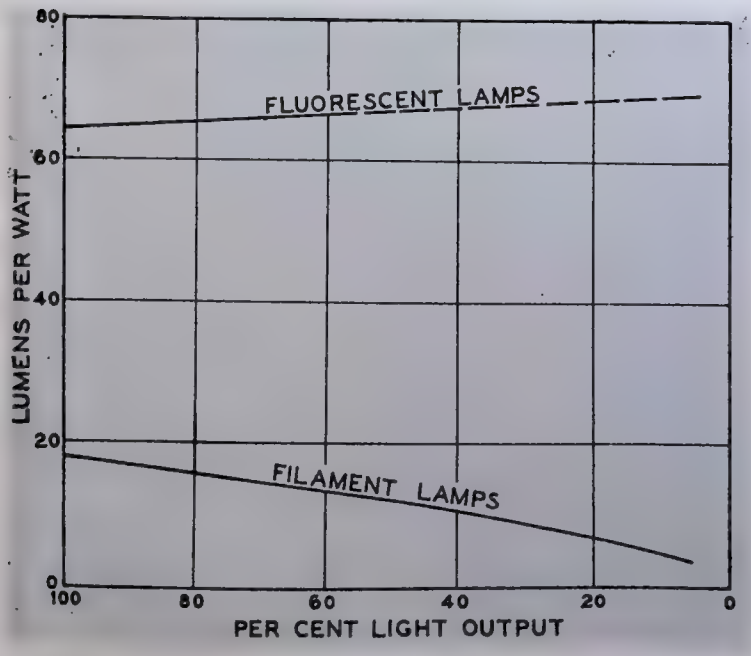
TABLE I

Color	Lumens Per Watt 40-Watt Fluorescent	Lumens Per Watt 200-Watt Filament (Typical Filters)	(Typical Filters) Efficiency Ratio Fluor/ Filament
White	64	18	3.5
Gold	33	15	2.2
Pink	26	8	3.3
Red	4	3	1.3
Medium Green	77	3	26.0
Medium Blue	27	1.5	18.0
Daylight	49	9	5.4

Figure 11 shows a comparison of the approximate efficiencies of warm white fluorescent and 200-watt filament lamps for a wide range of dimming. No consideration is given to the change in color of the filament lamp as it is dimmed.

Figure 11 does not include the losses of the ballasts or control equipment for fluorescent lamps. The total loss will vary depending on the number of lamps in the load. However, with 35 lamps on the control unit there will be a nearly constant loss of 3-½ watts per lamp over the dimming range. The individual ballasts will have approximately 10 watts loss at the highest brightness and four watts at the lowest brightness. Losses of the control equipment for filament lamp dimming will vary considerably with the type of equipment and the total load.

Fig. 11. Comparison of lamp efficiency for the fluorescent and incandescent lamps over the dimming range for white light.



Dimming Control and Ballast Design

The General Electric fluorescent lamp dimming control has three parts each of which may be located remote from the other two. The ballast and 40-watt lamp make up one part, the dimming control unit is the second part and the intensity control is the third part.

The ballast, which would be conventionally located in the lamp fixture, has two functions: to limit the lamp current in the usual way and to supply low potential power to heat the lamp cathodes continuously. Three leads must be brought to the ballast from the dimming control unit. The ballasts are connected in parallel, the maximum number depending on the rating of the dimming control unit.

Two models of the dimming control unit are available. One will control 35 (or less) 40-watt fluorescent lamps, and the other will control eight (or less) 40-watt lamps. Both models operate from 236 volt 60-cycle supply lines. The heart of each unit is a pair of industrial thyratron tubes. The principal difference between the two models is the size of these tubes which determine the maximum number of lamps each unit will control. To protect the thyratron tubes in the control unit during initial operation, a time delay device "warms up" the tubes. (T. T. Fig. 3) Both models are the same size in physical dimensions and may be racked side by side, or panel mounted side by side. Each model has a completely enclosed terminal box built in and provided with standard knock-outs for leads.

The intensity control is essentially a variable resistance. Its purpose is to set the time at which the thyratrons "fire" and pass current to the fluorescent lamps. The variable resistance is rather low in value (less than 1000 ohms), hence the remote control lines are not likely to pick up stray signals to affect the brightness level of the fluorescent lamps. The intensity control operates at 25 volts or less, and is electrically isolated from the 236 volt supply lines. The intensity control may be used with either model of the dimming control unit.

DRIVE-IN THEATRES

1953-54

Theatre Television Goes Outdoors

A Detailed Description of the First Use of TV In a Drive-In and Possible Future Development

BRIEF: *With the amazing scientific advances made in the past few years man is no longer amazed at seeing the "impossible" happen . . . A vital factor in the growth of America has been its ability to absorb and modify . . . An example of this can be found in the manner in which the motion picture industry has taken television and turned it to its own purpose . . . An exciting and new use for theatre television was its recent debut at a New Jersey Drive-In.*

Presented here is a complete study of this initial use of television in an outdoor theatre in order to shed some light on the methods used to make it the huge financial and entertainment success that it proved to be . . . There is also an outline of the procedures used to prepare a drive-in for television . . . The ultimate future of drive-in television is still unknown . . . but on the basis of the first attempt it appears as if it will play an important role in the overall development of theatre television.

In this age of the mechanical miracle the "impossible" has been accomplished with such regularity that it no longer confounds or amazes the average man. Things which a few short years ago were confined to motion picture serials and science-fiction periodicals are now so commonplace as to be completely accepted and taken for granted. All during this amazing technological growth, which still shows no sign of slackening, one factor has been largely overlooked; the ability to absorb and modify.

One of the things which long amazed the world is this nation's so-called "knack" for taking a new invention or system, and making it do things which it apparently was never meant to do. Perhaps this is the outgrowth of free men working in an atmosphere devoid of unnatural political and economic pressures. Perhaps it results from the blending of so many blood lines. And perhaps there is no reason. The fact remains, however, that the American system of free enterprise seems capable of coming up with endless improvements and adaptations. Certainly the history of the movie industry can be offered as living proof of this fact.

From its very inception the motion picture industry has been faced with obstacles that at first glance seemed to indicate doom. The idea of getting the public to accept filmed entertainment as against that of the established and recognized legitimate stage and vaudeville, was a major barrier which was shattered by the courageous and imaginative pioneers of the industry. When sound appeared it seemed that once again the motion picture had run into a desperate situation, but as is obvious to all, it was converted into one of the medium's greatest assets. Disasters of major and minor proportions have struck reeling blows, but the end result has always seen films emerge stronger than before.

In recent years the swift and amazing development of television seemed to carry with it the weapon that would finally destroy movies, as we know them today. The arguments for it seemed unanswerable. Here was a medium which combined features of the legitimate stage, motion pictures, and radio into a single new medium. And perhaps most important, it offered this new type of entertainment in the privacy of the individual home at no cost other than the purchase price of the set. Certainly here was something that could neither be ignored or fought. And yet today, the film industry is as strong, if not stronger, than when television first made itself felt, and the outlook is getting brighter.

Once again an American institution had faced a problem and learned how to turn a seemingly deadly foe into a valued ally. In the short time that it has been on the scene theatre television has proven that it can offer the public the kind of entertainment that it wants to see. Unable to eliminate something as exciting and unique as TV, the movie industry has taken this new medium and adapted it to its own uses, and has offered proof once more that it has within its structure the resources and resiliency to face competition in an aggressive, but honest fashion.

ABOVE: A VIEW OF THE HUGE 24 by 36 foot television picture of the first Marciano-Walcott title bout projected on the screen of the S-3 Drive-In. This marked the first use of television in an outdoor theatre.

TELEVISION IN DRIVE-INS

In September of last year an event took place which linked theatre television with drive-ins. This marriage between the outdoor theatre, which itself has only of late come into its own, and TV, is a step which is worthy of close study, for it offers a glimpse of what might be one of the most important developments seen in the entertainment world in quite some time.

The decision to move television into the drive-in was made by the Smith Management Company, Boston, who own and operate the S-3 Drive-In, on Route S-3, in Rutherford, New Jersey. The Walcott-Marciano heavyweight title bout in Philadelphia was selected as the event to raise the curtain on drive-in television for a number of reasons.

For one thing the fight gave every indication of being an exciting and colorful affair, and public interest was running high. Another important factor was that the bout was to be carried by 50 theatres in 30 cities across the country equipped with theatre television. This represented the largest network of participating theatres at that time. Previous experiments in conventional houses showed that audiences would pay advanced prices for such a program. Another thing that was favorable was the fact that there would be a complete home television and radio blackout, which meant that theatre TV had a complete exclusive. The fight was held in Philadelphia, which was near enough to the S-3 to minimize the chance of line or mechanical difficulties, and close enough to New York City to be fairly sure of getting a good turnout. On the basis of these factors it was decided to make the try—if the proper equipment was available.

Problems Arise

One of the problems which had to be reckoned with was the size of the drive-in. The S-3 is the largest outdoor theatre in the state of New Jersey, and one of the largest in the country. To properly televise an event in a drive-in of such dimensions, it meant that the equipment used would have to project the largest picture ever produced on television. Another problem was to decide whether or not an instantaneous TV system, or an intermediary one would be best suited to obtain the desired results.

RCA engineers were called in and after studying the situation they decided that their standard model instantaneous theatre television equipment would be able to do the job. The equipment was placed in a five ton truck which was to serve as the temporary outdoor projection booth, and arrangements were made to have the signal microwaved from the Empire State Building. The American Telephone and Telegraph Company provided cable facilities from Rutherford Center to the drive-in, a distance of more than four miles.

Selling the Show

When all the arrangements were made the next phase of the operation, selling it to the public, went into effect. If the management had any doubts as to whether or not they had something which appealed to the man in the street, these doubts were soon drowned in the sea of advance ticket requests that came flooding into the boxoffice. Within one week of the first announcement it was necessary for the management to make use of the advertising time contracted for with WPAT, a local radio station, to request that no more ticket orders be sent as the event was a complete sellout, and to apologize for the lack of additional facilities.

Price Scale

To make sure that the show would be worth the advanced admission prices, two strong first run features were booked for that night. The price set for cars was a flat $10, with no limit as to the number of passengers. Arrangements were also made to accommodate some 1200 "walk-ins," at a fee of two dollars and fifty cents per person. By fight time the S-3 was filled to its 1300 car capacity, and every seat in the temporarily set up walk-in section was occupied. Despite the early notice of the sellout, police reported a traffic snarl that had automobiles moving at a snail's pace for miles on either side of the drive-in. One estimate was that no less than 5000 people had to be turned away.

All attendance records for the S-3 were shattered as a gross revenue of $16,000 was run up for the one night. Now although no one would even laughingly suggest that such a turnout would be the regular order of things, it does offer positive proof that television in

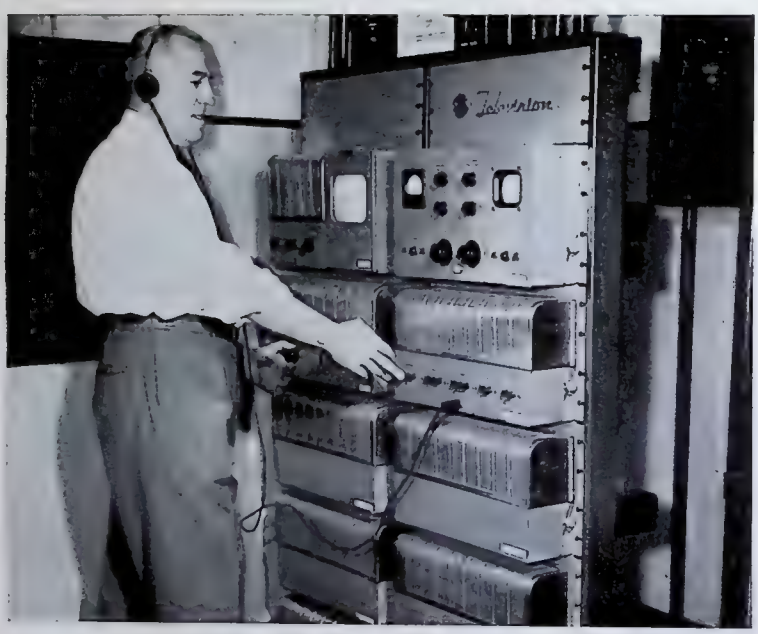
ABOVE: THE RCA INSTANTANEOUS theatre TV equipment is shown mounted aboard the truck which acted as the outdoor projection booth. BELOW: Part of the throng which jammed the S-3 to see the largest TV picture ever shown, with the longest projection throw ever used in theatre television.

outdoor theatres can certainly be a profitable enterprise.

Results

By the time the S-3 stood empty, with the evening as its only occupant, a number of interesting things had taken place. Those who were fortunate enough to be in the audience, in addition to seeing a thrilling fight, also were witnesses to the largest television picture ever commercially projected up to that time. The 24 by 36 foot image was of uniform excellence throughout the evening. The projection throw of more than 125 feet was the longest ever used in theatre television.

Many drive-in operators have been asking themselves a very important question: what does theatre television mean to me? The S-3 experience helped to supply some of the answers. On the technical side it proved that the equipment presently available, and with no costly special adaptations, can supply a good, steady picture under normal drive-in operating conditions. From the box-office point of view, it was demonstrated that the public will give overwhelming support to outdoor television, at advanced prices, if the attraction is strong enough, and properly publicized.



ABOVE: ALL THE CONTROLS and monitoring equipment was centralized on these two racks which only took up four square feet of space in the back of the truck. BELOW: A picture of the type of RCA television equipment that was used at the S-3, as it appears in an indoor installation.

Newspaper Response

A good barometer of how much impact an event has made upon the public is the response it gets from the press. In the case of the S-3 TV show, stories were carried all over the country by the wire services and syndicated columns. Local north Jersey newspapers considered it of enough importance to give it prominent space on their front pages. The Passaic Herald News, the day after the fight, carried a large headline which read: "Fight Crowd Storms S-3, Jams Highway For Miles." The lead paragraph said, "A $4,000,000 gate—almost twice better than any previous take, may eventually be realized as the result of the golden step which the prizefight world, with an assist from television, took last night at the S-3 Drive-In, Rutherford." It also quoted RCA engineer Paul Smith as saying, "I never dreamed so many people would turn out for a television show. It opens the gateway for other sporting and

The Newark News front page story spoke of the S-3 as being, "converted into a huge outdoor living room." In describing the response of the public the story said, "They came in passenger cars, trucks, station wagons, and afoot to the first theatre television at a drive-in." Although it was not exactly desirable, an indication of just how much the public was aroused by the new innovation was the report that about 250 persons crashed, and "most gained entrance by ripping down sections of a corrugated fence."

In addition to the nation-wide attention it received in the regular press, the story was also given prominent attention in various trade publications.

PROCEDURES FOR DRIVE-IN TV

On the basis of what was done at the S-3 drive-in, it is possible to present an outline of what should be done to prepare an outdoor theatre for television operation. Of course it is doubtful if this will be the final word on this subject. As more and more drive-ins decide to use TV it is fairly safe to assume that newer and more efficient methods will be developed. However, it is now a proven fact that the following procedures do provide a suitable picture.

Equipment Used

The RCA model PT-100A theatre television projector, long throw type, was used. The RCA system comes in basically the same, except for the tube and mirror. The short throw requires a special small vidicon tube and greater curvature to the mirror. The other two models take the standard tube, but the long throw has a different type and size of reflecting mirror.

All controls and monitoring equipment for the PT-100A system are centralized on two racks which require only four square feet of space. From this point the projectionist makes necessary adjustments while watching the theatre screen through a port in the control room wall, or the back of a truck, as

was the case in the S-3. There are only two actual operating adjustments, picture contrast and sound volume, although other controls for picture centering, size, focus, synchronization, linearity, etc., as well as input switching and monitor switching are provided. The equipment, which consists of three units, the projector, the control racks and the power supply, requires a space of approximately 14 square feet, and operates from a normal 120-volt, 60 cycle ac supply.

Essential Measurements

The long throw PT-100A equipment should be placed about 125 feet from the screen. At this distance it will give a very clear outdoor picture of 27 by 36 feet. The Rutherford drive-in used the equipment at a slightly greater distance.

Location of Equipment

The power supply should be placed in the generator room of the projection booth. The control racks should be placed in the projection booth. There are three possibilities for locating the projector.

(1) Construct a simple housing large enough to contain the projector unit, placing it on a permanent suitable base.

(2) Attach a steel collar and a connecting straight steel beam to the projector unit. The steel beam should be approximately 12 feet long. Imbed two steel members, placed several feet apart, in about four cubic yards of concrete. The distance from the bottom of the concrete to the ground surface should be approximately six feet. Drill holes in each of the steel members above the ground large enough to accommodate the rugged bolts. The purpose of this construction is to permit the steel beam attached to the projector barrel to be lowered between the two steel members imbedded in the ground and the steel member attached to the projector unit.

(3) In special situations the best solution may be to place the projection equipment in a trailer and project out of the back of the trailer. Whatever arrangement used, it is important to protect sight lines. The junction box for the television equipment should be placed near the projector barrel.

Layout of Drive-In

On the basis of the experience at the S-3, the front ramps should be left open for temporary seats, also a portion immediately in front of the screen, as far as the screen may be visible. The in-car speakers can serve nicely to radiate enough energy to afford adequate hearing for the seated group. However, to accommodate the people immediately in front of the screen, and to augment the sound for seated persons, the audio of the television event should be placed through the drive-in's regular loudspeaker system, plus one other standard speaker located at the top center of the screen.

Telephone Facilities

The event may be brought to the drive-in theatre by means of either microwave or coaxial cable. Quality of picture obtainable by either is virtually the same. Telephone facilities should lead to the projection booth and then be dispersed to the TV projector housing. special events."

THE FUTURE

On the basis of what happened at the S-3 Drive-In, and the reports that many other drive-in operators have shown a live interest in the subject, it is possible to make a number of guesses as to what will happen in the near future.

It is common knowledge that for the past few years the most active branch of theatre exhibition has been the drive-in. It has seen a tremendous growth in a short span of time, and is still in the process of expanding. With the easing of the material situation a staggering number of outdoor theatres should be in operation by the end of this year. This not only indicates a high degree of showmanship on the part of the drive-in operators, but also is positive proof that this is the type of theatre that appeals to a large segment of the movie-going public. Therefore, it seems reasonable to assume that drive-ins can offer a large enough audience group to be able to buy up top events in the world of sports and entertainment. As more and more outdoor and conventional theatres equip themselves for television, they can present a fight promoter, for example, with a guarantee of a gate that would run well into the millions of dollars. It is not completely out of order to suppose the some time in the future drive-ins will be able to arrange for programs especially designed for outdoor audiences, and use them to round out their regular programs, in the place of a second feature.

As better techniques and equipment are developed the quality of outdoor television productions will improve. Eventually screens especially designed for filmed and TV presentations will probably evolve. Although the instantaneous system was used in the S-3, this by no means indicates that the intermediary system has no place. The fact that the latter makes use of film might indicate that it will give equally good, or even better, results, since it can make use of the drive-ins regular projection equipment, which is geared to the requirements of outdoor theatres as regards to lighting, sound, picture size, etc. This is a question that has not been answered by any means.

CONCLUSIONS

As of this moment no one can say just how far outdoor theatre television will go, and how much of a part it will play in the future of drive-in operation. However, every indication seems to point to its taking an important place in the scheme of things. One thing has already been proven. That is that the film industry still has the courage and inclination to try something new. The management of the S-3 Drive-In were willing to take a chance that could have cost them quite a sum of money. Naturally, they waited until they had a strong attraction, but many things that have been "sure fire" in discussions and on paper, have fallen flat when put into practice. The RCA engineering staff was faced with a challenge both to their equipment and their ingenuity. The huge success of the experiment is a tribute to their ability.

The first step has been taken. Once more the industry has demonstrated its ability to modify and turn to its advantage something which appeared to be capable of doing it great harm. Theatre television is still in the formative stage. It is faced with such problems as obtaining channel allocations, of solving the time delay situation that often makes it impractical to carry a program on a nation-wide basis. It is faced with the problem of getting materials, and having enough theatres equipped with theatre TV. There are many, many such hurdles which must be leaped before it can reach its full potential. However, there is every likelihood that when theatre television does reach its peak, drive-ins will be playing a major role.

It can hardly be denied that the drive-in is a hardy and robust young branch of motion picture exhibition. And like a youngster, it has the strength and stamina to take full advantage of the new and modern things that come.

THE 7NP4 is the high voltage, projection-type kinescope which made it possible to obtain a picture of the size required for the outdoor theatre's screen and it represented a large advance in television technique.

Development and Care of Drive-In Lawn Areas

Green Turf, an Asset to Any Theatre, Calls For Scientific Planning and Maintenance Procedures

By Lawrence S. Dickinson
Associate Professor of Agrostology, University of Massachusetts

There is no substitute for the pleasing effect produced by a sweep of velvety lawn, and nothing is more inviting than an expanse of smooth, uniform and weed-free turf extending between the highway and the drive-in. In the theatre's playground area or picnic grounds, turf that is even, thick, and green conveys an atmosphere of orderliness and lends a touch of natural beauty.

Turf grasses are aggressive, and grow in successful competition with other vegetation if given an equal chance. Turf failures should never be charged against the grass if the variety planted is real turf grass. Man selects the environment, plants the seeds he desires, feeds the grass as he wishes, and abuses it as the occasion demands. Good lawns are rarely accidental; they are carefully planned.

DEVELOPING THE LAWN

As grass is a living plant, its health is directly dependent upon food and environmental conditions. While the limits of tolerance in most of the factors governing its health are wide, like the human being, grass is affected adversely when these factors are abnormal.

Eight factors of nearly equal importance enter into the development and maintenance of good turf areas. They are: (1) The foundation. (2) The sub soil. (3) The top soil. (4) Drainage. (5) Surface grade. (6) Seed selection. (7) Seeding. (8) Fertilizing. (9) Use and maintenance procedures.

The Foundation

The foundation is that level below the sub soil. Usually, it has to be accepted as found, be it rock, clay, sand, gravel, or filled-in swampland. The greater its distance below the top soil, the less the influence on the grass. Drainage and stability are the important influences of the foundation on the grass' condition.

Gravel, coarse sand, and hard pan, if it is sloping, removes the surplus free water from the sub soil, while sand, depending upon the fineness of its grains, tends to absorb the free water and, after the downward flow has ceased, will return some of the water to the sub soil by capillary action.

Clay and level, hard pan absorb water very slowly, causing the sub soil to become water logged. This is especially harmful if the sub soil is not deep enough to hold all of the water. Such a condition may develop in the spring of the year or following long rainy periods, heavy showers, and by overwatering. Much of the so called "winter kill" is caused by such a condition occurring in late spring.

Rock either rapidly diverts the water to subterranean channels, or collects and holds it in an impervious basin. The former means complete loss of water and the latter, excessively wet soil, with standing water, at times, and drowned turf roots.

Soluble plant foods can be lost with the water, and in the case of coarse gravel and certain rock foundations, even foods in suspension can be lost.

BRIEF: ***The drive-in theatre has grown from a mere outdoor theatre to a community center . . . and with its added facilities for child and adult entertainment before the picture begins . . . its popularity has increased so much that managers now realize that good turf is a capital investment which pays real dividends.***

Eight factors of nearly equal importance enter into the development and maintenance of good turf areas . . . and these are discussed in detail . . . pointing up the theme that the grass wants to grow; you need only help it with basic requirements. With the foregoing suggestions put into practice . . . it should not be too difficult or expensive to maintain the turf at the average drive-in.

If possible, the foundation of a lawn should be uniform. Otherwise, there will be an unequal distribution of soil moisture and fertility, and uneven heaving and settling. The influence of this unequalness is present in the lawn throughout the year, and becomes especially obvious when the rate of rainfall is abnormal.

As tree stumps and carelessly dumped, large rocks are not stable, they will cause depressions to occur in the surface of the lawn.

The Sub Soil

The sub soil is that infertile layer of earth between the top soil and the foundation. It is the regulator of the water flow from the top soil to the foundation, and, as such, is fully as important as the top soil.

The ideal sub soil should be of such physical condition that it will absorb quickly a large portion of the surplus water from the top soil and return much of it by capillary action. The depth should be sufficient to retain enough water to supply the grass plant during the normal dry periods between showers.

The depth of sub soil must vary with the physical character of the foundation within the lawn area, and, unless this variation is made or corrected, the lawn will be uneven in growth, especially during the summer months. Over gravel, 14 to 16 inches of sub soil is necessary, while much less is required over fine pressed sand. Clay requires at least eight inches of fine, gravelly sub soil or 16 inches of heavier type sub soil. Rock should have 16 to 18 inches of light clay sub soil or six inches of clay.

Building debris does not make good sub soil or foundation, as it is not uniform in its physical characteristics, and will permit rapid flow of water in one area and retard it in another. Small planks, tin cans, and boards stop the upward rise of capillary water and often account for individual browned spots in a lawn. Hard coal ashes, six inches deep over a sand foundation, make an excellent sub soil.

Unless the sub soil is reasonably uniform in its water holding capacity and compensates for inequalities in the foundation, there will be a variation in the color, health, and vegetation of the lawn as its ages and in periods of poor growing weather, even though the top soil is uniform.

The Top Soil

Top soil should be evaluated (1) by its ability to absorb rain or sprinkled water, retain a reasonable amount, and pass the surplus through the sub soil; (2) by its ability to retain plant food; (3) by its inability to become packed and tight, thus excluding air which is essential for healthy grass roots, and causing too great a surface run-off of water; (4) by the amount and type of organic matter; and (5) by its freedom from infestation with weed seed. Ideal top soil is easily-pulverized sandy loam, reasonably well supplied with plant food, with good water retention qualities, and containing at least five per cent organic matter.

The depth of the top soil need not be more than four or five inches if it is over a suitable sub soil. And it should be remembered when selecting top soil that, while a deficiency in plant food may easily be supplied by fertilizers, it is difficult to change the physical texture of the soil once the grass has started to grow. Although the heavy and darker top soils appear to be better for turf growing, they are very liable to become packed and form an impervious roof over the root zone. Soils which have a high clay content can be improved physically by the addition of coarse sand, peats, or manures, while sandy soils are benefited by the addition of clayey soils, peats, manures, or other organic matter. It should be noted that it takes much more sand to show improvement to a clayey soil than it does clay or organic matter to improve a sandy soil. At least two inches of sand should be spread over a clayey soil

before the sand is mixed in by thorough harrowing. The resulting quality of specially treated soil depends on thoroughness in mixing as much as it does by the material used.

Dark top soils usually indicate the presence of organic matter, which, in turn, indicates a high degree of bacterial activity in the soil. Fertilizers to feed the grass can be supplied to soils of low fertility, and the resultant increase in the growth of the grass will add to the organic content and friability of the soil. The friability of the top soil, that is, its tendency to crumble into small particles, is more important than its fertility, and for that reason top soil should never be placed over existing turf without first thoroughly harrowing, spading or plowing under the sod.

Best results will be obtained if a two or three-inch layer of top soil is spread over thoroughly loosened sub soil, and the two levels are mixed by harrowing or spading. Manures are always beneficial, and should be mixed into the top soil during this operation.

Preparing the Seed Bed

The seed bed is the top two inches of top soil. In preparing the seed bed, large areas should be disc harrowed in at least two directions at right angles to each other, rolled with a medium weight roller, and smooth-harrowed to pulverize the soil. On small areas, a garden pulverizer set to work to a depth of four and a half inches will usually suffice. Much benefit will be gained if the surface is rolled after pulverizing and the soil is loosened by deep hand raking. Loosened top soil should be roughly raked to remove debris and large stones and to pulverize the soil, then carefully raked to finish grade.

Preparation of the seed bed calls for the following:

1. Any depressions occurring after the surface is rolled should be filled with imported soil; not with soil raked from the rim of the depression.
2. Any humps that appear should be brought to grade by removing the soil; not by rolling or tamping it to grade.
3. The top two inches should be free from debris and stones, and should be finely pulverized.

Do all raking up the grade, as raking down the slope pulls much of the top soil to the lower areas where it is not needed, leaving the upper areas thin soiled and subject to drying out too quickly, which will result in thin, weedy turf.

If the top soil is known to have a high acid content, from 40 to 50 pounds of ground limestone should be mixed into each 1,000 square feet of the soil by harrowing or raking. If acid exists in but a medium degree, mix 30 pounds of superphosphate into each 1,000 square feet, and plan to apply lime to the surface within a year.

If the top soil contains a reasonable amount of organic matter, as indicated by the browness of color, the use of nitrogen fertilizers before seeding is not advised. A better root system will be formed without the pre-seeding nitrogen fertilizer, and a well developed and well placed root system means better turf at a lowered cost of maintenance.

Should it be necessary to buy top soil, insist that it be free from crab seed, or mix 15 pounds of calcium cyanamid into each cubic yard and let it remain in a pile for several weeks to kill any crab grass seed that may be present. If this is impractical, a satisfactory control of crab grass, spotted spurge and similar weeds can be effected if the following suggestions are followed:

On the finish graded soil, apply 10 to 15 pounds of calcium cyanamid evenly over each 1,000 square feet, then rake it into the top inch and a half. After the area remains fallow for ten days, loosen the top inch of the surface—no deeper—by careful raking, and sow the seed. In this procedure, technique of operation is the key factor.

While this use of cyanamid furnishes a high nitrogen content pre-seeding fertilizer, which is not conducive to the best possible root development, the assurance of a reduced crab grass liability may outweigh the value of a better root system. If the lawn area is prepared in the late spring, and dust is not a factor to be considered, reasonable weed control can be effected by allowing the weeds to start, and then shallow cultivate and rake the surface every two weeks to destroy the young weeds and exhaust the weed seeds. Do not deep cultivate, as this may bring more weed seeds to the surface.

The Surface Grade

The grading of a lawn is usually influenced by fixed grade points, such as the elevation of the parking area, the highway, neighboring property, and the entrance. A surface slope of at least six inches in 100 feet is a minimum safe grade for sufficient surface drainage. As loosened soil will settle, the grade of a new lawn should be one and a half inches above the desired finish grade.

There should be one or more natural or artificial outlets for the surface water, and all areas should drain toward these outlets. As poor surface drainage becomes a chronic disability for the lawn, and proper drainage cannot be achieved where absolutely level surfaces or pockets exist, a recognized landscape maintenance specialist should be consulted in developing the required surface grade.

Seed Selection

Many states require each package of lawn grass seed to be marked with a label having certain valuable information. Know what you're buying. In many cases, poor turf results when little or no thought is given to what is really wanted in a lawn. Drive-in turf has specifications as definite as those for a golf green, and before actually buying seed, those qualities should be considered.

The turf on play areas, sitting areas, and picnic areas has work to do. It need not look especially "pretty," yet its color should be uniformly distributed. It must not retain enough moisture to dampen the sandaled feet of patrons. The manager does not want a variety which will require frequent cutting and fertilizing. With these requirements, the grass must be able to withstand heavy foot traffic and the resultant compaction of the soil, and still be fresh for the next performance.

On non-traffic and background areas, the turf must look particularly attractive. Little work is required of it, yet it is most important to the esthetic aspects of the whole theatre.

The third general turf area occurs only at those theatres having sod on the parking area. This turf cannot be a fire hazard, and must not require frequent clipping. Being a traffic-bearing turf, it must have sturdy crowns and blades of high tensile strength. Also, it must furnish reasonable traction when wet.

Thus, just any seed mixture can give only temporary and partial satisfaction of these various requirements.

The highest priced seed mixtures sold by reputable seed houses can be relied upon as the best possible blending of varieties for general use. Low priced "bargain" mixtures should be avoided, for the saving of a few dollars for seed will inevitably lead to either an increasingly unsatisfactory lawn or an abnormally high maintenance cost.

The basic varieties of grasses are Kentucky bluegrass, Colonial bent, Seaside bent, Chewings fescue, and Creep-

ing red fescue. Special purpose grasses are rough stalked meadow and Canada bluegrass. Clover is not a grass and does not belong in a lawn seed mixture, but if it is really desired, no more than five per cent of white clover seed should be used.

On "show" areas only, sow per 1,000 square feet, four pounds of Chewings or red fescue, one pound of Kentucky bluegrass, and one pound of rye grass.

On play and foot traffic areas, sow a seed mixture having eight parts of Chewings or red fescue, one part Colonial bent, and one part rye grass, with the parts mixed by weight.

On vehicle traffic areas, sow a mixture of Chewings and Sheep's fescue or red fescue, on equal parts by weight.

Seeding

These recommendations are for the northern half of the United States and southern Canada. In the southern section of the United States, or in locations with similar climatic conditions, a base of Bermuda grass, supplemented with Italian rye grass, sown each fall, is the suggested variety.

Fall is by far the best time of the year to seed a lawn. Spring seeding means waiting until the soil is dry enough to work, and by that time weed seeds and growing weeds have a big advantage over grass seed and young grass plants. If the grading and shrub planting of the new lawn is finished in the spring, much will be gained by sowing either a temporary lawn (equal parts of red top and timothy at three pounds per 1,000 square feet) or a cover crop of spring rye, soy bean or buckwheat, each at two and a half pounds per 1,000 square feet. The temporary lawn or cover crop should be turned under or thoroughly harrowed into the soil before mid-August and the permanent lawn sown about September 1.

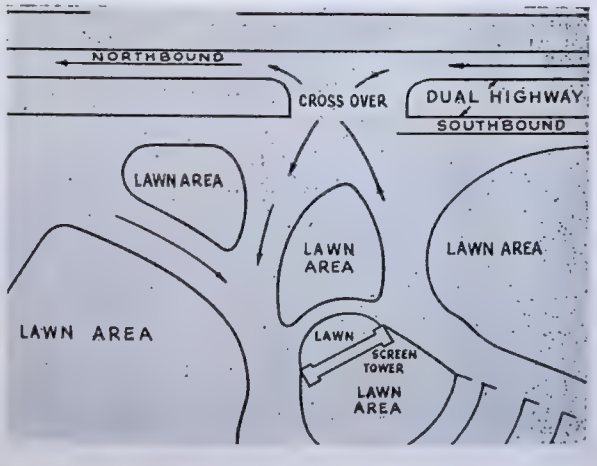
If the lawn grass seed is sown by hand, an even distribution will be obtained by dividing the seed into four equal parts by bulk, and sowing one part north and south, one part east and west, and one on each of the two diagonals.

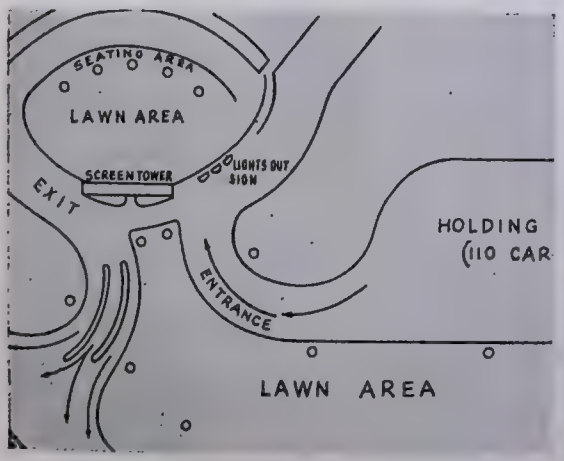
With a mechanical distributor, it is best to divide the seed into two parts and sow each part at right angles to the other. After sowing, the seed should be lightly covered by brushing with a brush drag made of twigs or carefully raked with a wooden lawn rake. Care should be taken not to cover the seed more than one quarter of an inch. Do not try to grade the area while raking in the seed, as this makes for very uneven distribution of the seed.

After raking in the seed, roll the area with a light weight roller. A water ballast roller without water or a wooden roller is advised. The soil should be dry, otherwise, the roller will pick up the seed and soft soil. Leaves must be raked from the seeded area. All newly seeded areas should be protected from drying winds during the winter, and, if these areas are on a southern exposure, open shade is desirable to prevent too early starting of the grass. One sharp freezing of young grass is very harmful, and two or three in quick succession are usually fatal.

Newly seeded areas should be kept moist by sprinkling, but overwatering and puddling should be avoided, especially if the soil is "heavy." Many new seedings have been spoiled by permitting the soil to dry out after the grass seeds have started to "swell," or because of a caked condition of the soil. The time between sprinklings and the amount of water applied should be increased as the plants grow.

THE GREEN VELVET FRAME that dresses and completes most successful drive-ins is relatively cheap to establish and maintain if thoroughly understood. Scarred earth and gravel are heat reflecting and dusty, while lawns are cool and inviting and indicate to the passing motorist that here is comfort and relaxation.





All operational drawings are through the courtesy of O. M. Scott and Sons Co., and from their authoritive booklet "Scott's Lawn Care."

Young grass plants should be clipped only with a sharp mower or scythe. Make the first clipping when the grass is one half inch short of "lopping over," and clip not more than one inch of the blade, preferably less. As the clippings are beneficial to the growth of the grass, they should be left where they fall.

It is strongly advised that the lawn area be fully prepared for seed in the fall, regardless of the time the job is finished. If it is not possible to sow the seed before the ground freezes, seed on wet snow or on "honeycombed" soil.

Fertilizing

Grass plants must have a complete fertilzer, that is, one having nitrogen, phosphorus, and potash, the more important elements frequently deficient in the soil. Nitrogen stimulates leaf growth, phosphorus is necessary for root development, and potash aids in developing the stem, maturing the plant, and aids in resistance to diseases. Grass leaves contain the food taken from the soil, and will return a large portion of these valuable minerals in the correct ratio if not removed.

Bean meals and manures can be considered as complete and well balanced fertilizers, and can be applied safely at 16 to 20 pounds per 1,000 square feet. Dried and pulverized poultry manure can be used at a rate of 20 to 30 pounds.

An ideal fertilizer program calls for three applications, one about April 15 or 20, a second May 15 to 20, and a third from September 5 to 10. If only one can be given, there is a slight preference for the September dates.

Fertilizers applied in the spring will help the grass to crowd out summer weeds, while fertilizers applied in the summer cause abnormal growth and strain upon the plants, and fall fertilizing prepares the turf for the winter and results in an early and aggressive growth in the spring.

After the fertilizer is distributed, the area is dragged diagonally several times to smooth out the surface and work the fertilizer into the root zone. Dragging with a light weight drag also serves to fill in low spots and level off high areas.

MAINTENANCE

Clipping

The frequency with which a lawn is mowed should be governed by the length of the grass and the prospective weather, rather than by setting a regular, fixed interval. A thick, well-fed lawn may be clipped closer and more often than one that is thin and underfed.

Lawn turf should be mowed often enough to prevent mats of cut grass showing 36 hours after cutting. If they appear, these mats should be brushed into the lawn area or gathered and thrown away. All other clippings should remain on the turf.

Set the mower to clip not lower than one and a quarter inches, preferably one and a half inches, and clip the grass when it is not more than two and a half inches tall. If the lawn is not fall fertilized, raise the height of cut one half inch from September 1.

Newly seeded lawns should be permitted to grow to the lopping over height, and the first mowing should be done with a sharp mower set one half inch higher than the desired minimum. It is much better for the grass to clip it very early in the morning than in the later afternoon or early evening.

Watering

A thorough soaking once in six or eight days is more economical and more beneficial than short sprinklings, which draw the grass roots near the surface

where they are very susceptible to wear, drought, freezing, sun, and wind drying. Apply water slowly at first, and, if possible, no faster than the soil will absorb it.

Early morning is the best time to water the lawn, although grass will not be injured by watering while the sun is shining brightly.

It is important to remember that over watering will do much more harm than under watering or no watering at all.

Seasonal Care

Combing the lawn in the spring with a rounded wire rake or a wooden lawn rake is desirable, but the use of a wire or rattan broom should be avoided. If the lawn area is rough, the raking should be postponed until after rolling.

Spring rolling is very important, as it will press back into the soil the grass crowns which have been lifted by frost action. In regard to rolling, it should be remembered to roll the ground only when it is dry, use as light weight a roller as possible to accomplish the smoothing, and, unless the soil is very sandy, roll only once.

Parts of the lawn which receive heavy traffic should be deep forked early each spring. Insert the fork into the sod to the full length of the tines, bear down on the handle until the turf is cracked, and then lift up on the handle and withdraw the fork. Fork holes should be four to six inches apart. If the area is too large for hand forking, run a heavily weighted disc harrow over the lawn, with the discs set to run straight. There are mechanical soil looseners and aerators which can be used very satisfactorily.

This loosening of the soil is the most important maintenance operation, and should not be neglected, for it enables the grass roots to get vital oxygen and permits water to penetrate the soil more easily.

It is wasteful to sow grass seed on a fairly well established lawn; fertilize instead. Bare areas should be deeply raked and seeded, and thin areas should be loosened by deep forking before seeding in the fall.

The white circular patches that appear on the lawn in the spring are caused by snow mold fungus, and should be brushed with a stiff broom to destroy the fungi and cause the grass to stand erect, permitting air and sunlight to reach the soil and grass crowns. Snow mold seldom kills grass, but, if not brushed, it seriously weakens it for later growth.

Lawns need no winter protection from cold, and will very likely be severely injured if covered with hay or straw. However, lawns are frequently injured by drying winds during the winter, and a snow fence or light covering of brush will prevent such injury.

Weed Control

It is now much easier to keep large lawn areas free of unsightly field weeds with the recent discoveries in chemical weed control. The most easily applied and readily available of these new products feeds the grass and eliminates weeds in a single operation. Moreover, this product is spread as a dry application and requires no special spraying equipment. Spray weed killers may be more conveniently used on areas which do not require close maintenance, such as roadside turf, and are quite effective in destroying ragweed, golden rod, thistles, and other irritating plants. The use of weed controls in the late summer and early fall will greatly reduce weed growth during the following spring and summer.

Weed control should not present much of a problem with a lawn that is well built, fall seeded with the correct varieties of grass for the location, well fed, and given reasonably good cultural care. An established lawn that is practically free of weeds will continue so if cultural practices are kept within the grass' limits of tolerance, for thick grass is the best known weed killer.

Playgrounds At Drive-Ins

Methods to be Used in the Proper Selection, Installation and Maintenance of Equipment That Assures Safety and Fun

By NORMAN R. MILLER
Vice-President, American Playground Device Company

BRIEF: ***Playground areas for drive-ins have become virtual necessities for successful outdoor theatre operation . . . Both the youngsters and their parents have come to expect and demand recreational equipment apparatus on the grounds . . . to be used both before and during the program . . . In supplying this service to their patrons, drive-in operators must be certain that they are purchasing the proper equipment and do all in their power to maintain the play area in such a manner that will discourage accidents.***

Presented here is a detailed analysis of the equipment required for a basic playground . . . and the proper procedures to be employed in the installation and maintenance of the equipment . . . It touches upon such subjects as equipping fundamental play areas . . . costs . . . and maintenance procedures for both during and after the season . . . Drive-in operators who are thinking of installing a playground will find many valuable pointers in this informative article.

What equipment should I buy? How much should I invest? How should it be installed? What about maintenance?

Above are some of the questions frequently asked by drive-in theatre operators when they begin planning the addition of playground facilities for the entertainment of the small fry, and not to forget, relief for their tired, harried parents.

All are very important questions, of course. Since playgrounds are a somewhat recent innovation at outdoor theatres, not much information concerning this particular phase of the operation has been published.

Answering the first question, it must be said that playground apparatus should be selected to best fit the age, size and abilities of the boys and girls who go to the drive-ins. This will guarantee the maximum play-exercise value and safety for the youngsters and money saving for the theatre operator.

BASIC EQUIPMENT

For the modern drive-in, with a capacity of 400 cars or more, we recommend dividing the playground into two apparatus areas—the junior for children up to nine years of age, and the senior for those 10 years old and up.

Junior Area

Following are the apparatus recommended for the junior area:

Six-Swing Set—with chair-type nursery seats to securely hold children of pre-school age. The seven-foot high frame should be constructed of tested, hot-dip galvanized steel pipe, locked rigidly together with certified malleable fittings. Swing hangers of malleable iron, certified to test more than 50,000 pounds tensile strength per square inch, and oil-impregnated bronze bearings assure extra safety and lasting wear.

Combination Unit—with swing frame eight feet high. This unit combines the fascinating play-exercise opportunities of slides, swings and see-saws. Standard equipment includes two heavy duty see-saws, four heavy duty swing seats suspended on heavy duty No. 8/0 bulldog chains with oil-impregnated bronze bearing swing hangers and a heavy-duty all-steel 16-foot wave chute slide, complete. All metal parts should be hot-dip galvanized to rustproof permanently. See-saw boards and swing seats should be colorfully finished with three coats of weather-resisting Wax-O-Namel, or some other high grade wax.

Primary Castle Walk—a special climbing structure designed by American to provide the arm and shoulder muscle building exercises of the horizontal ladder as well as the climbing-play action of the Castle Tower. The primary unit has a seven foot tower and walk six feet long, 24 inches wide and five feet, three inches high.

Merry-Go-Round — equipped with an assembly to afford smooth, easy motion readily propelled by one child even when carrying a capacity load of 25. Seat board should be 10 feet in diameter, constructed of clear, select two inch Oregon fir stock, with enclosure platform of select wood also. It will provide children with thousands of hours of healthful fun and exercise with maximum safety.

Senior Area

For the senior apparatus area, the following pieces are recommended:

Six-Swing Set — with 10-feet high frame fabricated with upright supports of 1⅞-inch and top beam supports of 2⅜-inch tested steel pipe. The frame should be locked together by massive certified malleable iron fittings assuring lifetime durability.

Senior Castle Tower—which will accommodate as many as 50 children at one time. Developed to satisfy the climbing instinct inherent in every child, the Senior Castle Tower is nine feet, nine inches in height. The pipe members are purposely 1-1/16-inch in diameter so that even the smallest child can grasp and maintain a firm handhold. Circular design eliminates sharp corners and ends, provides large capacity and makes the many climbing-play-exercise opportunities highly interesting and beneficial to the child.

THIS VIEW OF a typical playground installation pictures some of the basic equipment that is required in order to maintain play areas that will keep children busy and parents relaxed.

ABOVE: ONE OF the most popular items in any drive-in play area is a well constructed slide. BELOW: A picture of a senior castle tower which will hold as many as 50 and was developed for use by children six years and older. This piece of equipment appeals to climbing instincts.

GUIDES TO WISE BUYING

1. Specify certified Grade-A malleable frame fittings of the clamp type, tested to 50,000 pounds tensile strength, guaranteed against breakage; for such fittings greatly simplify the work of installation, will deliver perfect, repair-free performance for many years, assure maximum strength and safety in the equipment.

2. Avoid threaded fittings, grey iron fittings or those which necessitate drilling the top beams of swing or combination unit frames; for all of these fittings reduce the strength of the equipment, multiply maintenance and repair costs, reduce the safety factors so essential in apparatus for drive-in play areas.

3. Also avoid makeshift, unsightly welded joints or fittings, for welding in many ways complicates the work of installation, makes repair or replacement doubly difficult, increases the freight rate on pipe members which normally, where malleable fittings of the clamp-type are employed, take the lower "pipe" rate; besides, welding destroys the protective zinc coating, exposing the welded surface to rapid deterioration by rusting.

4. Specify hot-dip galvanizing for all pipe and metal parts, and avoid metallizing or zinc spraying; for hot-dip galvanizing alloys with the steel a much heavier, much more uniform and much smoother coating of zinc.

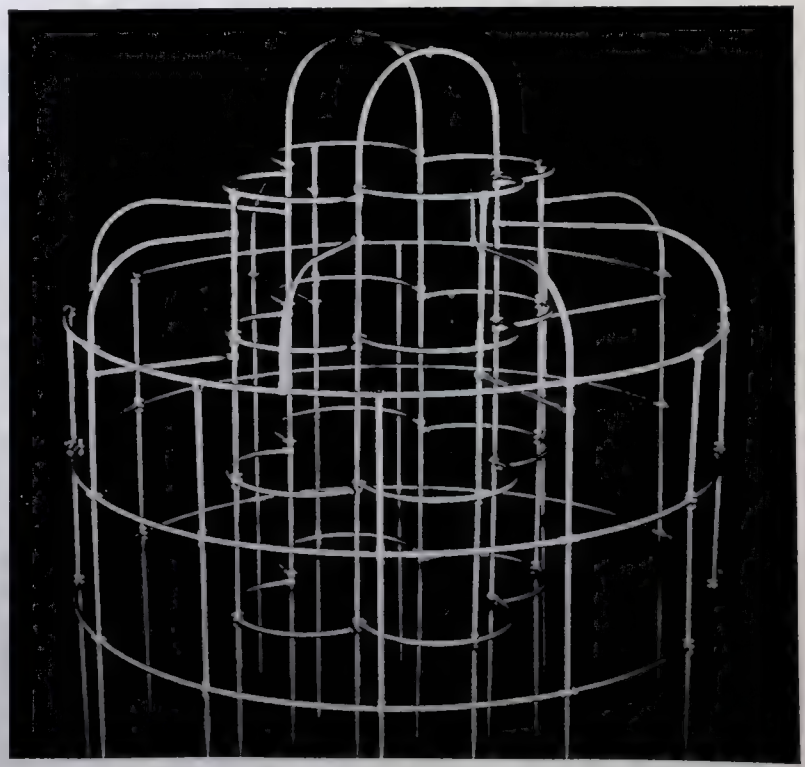
5. In all hardwoods, insist upon carefully seasoned, the equivalent of a year or more air-dried FAS oak, maple or birch, entirely free from knots, season checks or mineral defects. In fir, you will be wise to specify B & BTR old

All-Steel Slide—with a chute 20 feet long and platform 10 feet high, will provide thrills all youngsters enjoy. Lifetime durability and safety for the children are assured by special certified malleable fittings tested to 50,000 pounds tensile strength, which lock the chute, massive 16½-inch by 23-inch malleable safety platform, large, roomy non-slip safety stair treads, chute guard rails, safety handrails, stairway supports, into a tremendously strong integral unit.

See-Saw — this equipment is recommended in the four-board unit size for the standard drive-in. See-saw boards should be constructed of carefully seasoned select Oregon fir and be 12 feet long, 12 inches wide, the ideal size for the larger children. All corners should be rounded, with seats saddle-shaped for greater comfort and safety. Some see-saw fulcrums provide three-way adjustability at fulcrum point to compensate for the varying weights of children.

The eight mentioned units, which will keep upwards of 500 children happily and beneficially occupied before showtime, may be purchased for slightly more than $1,000. By selecting durable, ruggedly-built equipment, maintenance costs will be negligible. There also will be that comfortable feeling that comes from the knowledge that there will be no mechanical defects to cause accidents.

In purchasing playground equipment there are things to keep in mind.



ABOVE: THE HAPPY smiles and activity of this group indicates that a castle tower is one of the most popular items in drive-in play areas. BELOW: This primary castle walk was designed to combine climbing play action with the exercises of horizontal ladders. This model will hold 60.

growth, 100% flat dense grain Douglas fir seasoned to approximately 14% to 15% moisture content.

6. Always specify oil-impregnated bronze bearing swing hangers. They will operate quietly and much longer than either ball or roller bearing hangers, never require oiling or frequent attention as do hangers of the ball or roller type, will deliver many additional years of service before maintenance or any repair become necessary.

7. You will be wise, too, to specify all-steel slides of approved, extra-heavy construction and design; for all-steel slides when properly built will deliver from three to five times as many years of service as will slides having maple siderails or hardwood stairways. Further, all-steel slides are safer for the youngsters to enjoy, reduce repair and maintenance to an absolute minimum, particularly when the slides are equipped with stainless steel bedways which never can rust. The steel siderails, incidentally simply polish up brightly through the years, when properly hot-dip galvanized.

INSTALLATION OF EQUIPMENT

The job is only half done after you have bought your playground equipment. Then comes the important task of correctly installing the apparatus. You may have purchased the finest, strongest, most durable, safest apparatus built, but you are in for much maintenance, repair and other expense if you have not paid proper attention to installation details.

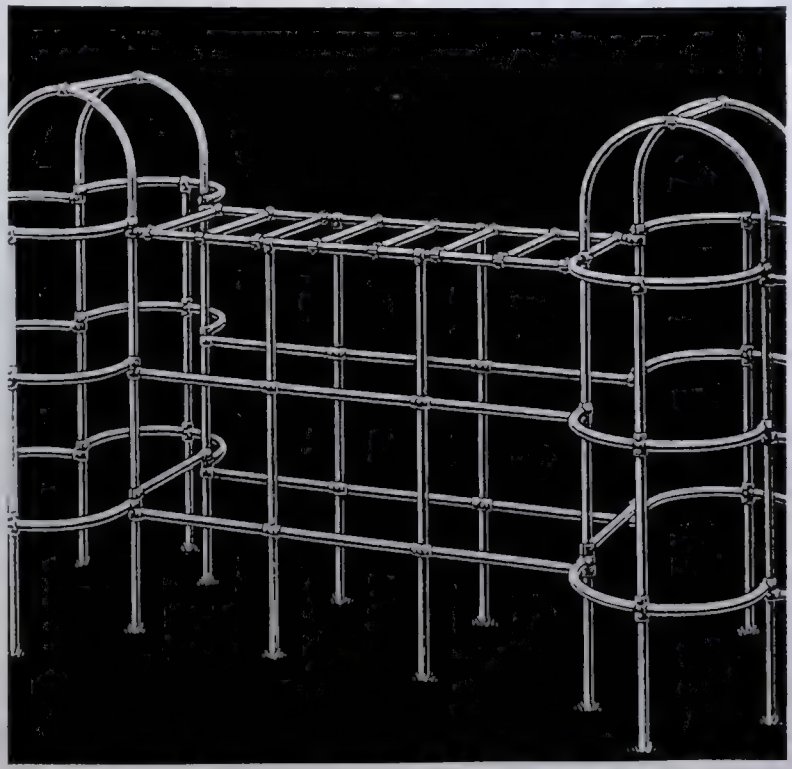
If playground equipment is properly installed, it is ready and able to withstand years of the severe use and abuse it will receive. Adequate concrete footings and perfect alignment of all frame members are necessary to assure maximum structural strength and rigidity.

Proper Methods

Correct installation is not nearly so difficult as it might at first appear to be. Leading manufacturers of recreational equipment, like American, supply detailed, but easy-to-read blueprints which show the ground plans and outline the recommended procedures for installing each unit. In addition, installation plans often point out numerous ways by which the work of installation can be simplified and made easier.

Check your equipment carefully at the time of delivery and before you sign the carrier's freight receipt to make certain that you have received all of the bags, bundles cartons, crates and pieces as detailed in the bill of lading, which accompanies your invoice. Much valuable time may be lost, if with a crew assembled and already into your work of installing, you then find that the carrier has lost in transit or failed to deliver all of the parts you need to complete installation and assembly of each unit.

Then, while part of your crew is beginning to assemble the units, others can stake off for the excavating according to the ground plans. With the holes properly located and dug, the concrete mix can be poured; and, while the mix is still wet, the units—now assembled



but with all fittings kept fairly loose—can be lifted into position and set down into the concrete.

Alignment of all frame members is of paramount importance, both to assure the best appearance and performance and maximum structural strength. So, while the concrete is still wet, and the fittings still loose, a level should be used on all members to bring them into perfect alignment, to make sure that top beams are level and straight, and vertical supports perpendicular to the ground. After alignment, the fittings can be pulled down tightly, and the concrete allowed to harden.

Here is a seemingly minor but occasionally overlooked point. No apparatus should be attached to the frames nor any playground unit be placed in use until the concrete footings have hardened thoroughly. Forty-eight hours is the minimum time which should be allowed, with 72 hours a much safer period of waiting.

Time of Installations

With the installation prints as a guide, playground equipment can be installed in a relatively short time. For instance, three men can install swing sets of the various standard sizes in four to six hours; combination units, in five to six hours; Castle Towers, three to six hours; and slides, three to six hours.

Playground equipment will deliver longer and better performance if the upright supports are anchored deeply and solidly in concrete. Concrete around the base of all frame support members should be troweled smooth and somewhat conically so that it is highest at the pipe members proper. It is recommended that at least four inches of turf cover all concrete footing, level with the ground line. This adds safety for the youngsters, protects footing, and can be seeded. For an extra measure of safety, the turf could be covered with tanbark, sawdust or shavings to cushion possible falls from the apparatus.

MAINTENANCE OF PLAYGROUNDS

When the drive-in season ends, the time has come for inspecting, repairing, repainting, and storing the playground apparatus so that it will be all in readiness for use without delays the following spring.

All equipment should be brought into safe repair to start each season, of course. Equally important, however, it should be maintained in perfect repair throughout the year. All apparatus should be inspected at regular intervals during the season. Frequent inspections will focus attention promptly on recurring acts of vandalism, the greatest single threat to recreational equipment.

Care of Apparatus

Wood parts of apparatus should be carefully inspected. Badly worn, splintery or cracked siderails, swing seats or see-saw boards definitely are dangerous for the children, and should be repaired or replaced promptly. Swing chains, hooks, all hangers and frame fittings should be checked carefully, too, for badly worn parts or sections of apparatus are doubly hazardous.

All wood parts should be refinished regularly. In far too many cases, the only paint the playground equipment ever receives is that applied at the factory, even though this apparatus is subjected to exceptionally hard use and constantly exposed to rain, snow, sleet, wind, hail and dust.

Years of extra service can be added to playground equipment by painting it frequently and regularly. American uses Wax-O-Namel, specially prepared for them by one of the nation's foremost paint manufacturers; but less expensive, outdoor enamel will do very well. It should be also kept in mind that the protective paint coating will last longer, look much better if the wood parts are sanded reasonably smooth before they are refinished.

Worn slide chutes present a special problem. Few owners have the tools and equipment necessary to do a thorough, really workmanlike job of slide chute repair or rebuilding. Thus, if the siderails or bedways are badly worn and need to be replaced, it's usually advisable to ship the worn chutes to the factory for a factory-rebuilding job. Frequently, too, if the chutes have been in service for 10 years or more, it is good economy to replace the worn chutes with new ones of all-steel construction. It's a good idea to send the chute fittings along with the chutes, so that the factory can properly locate them on the new chutes and thus simplify the installation job.

If they are properly galvanized by the hot-dip process, the metal parts of playground equipment will present few problems until they have been in use for about eight years, or more. In fact, if they were hot-galvanized originally, the pipe members, chains and malleable fittings tend to weather-out smooth and shiny as the years pass.

One sure way to protect equipment while it is in storage and to facilitate its reinstallation is to store all the equipment in an orderly, organized manner, so that you know where to locate the apparatus for each unit.

Standardization

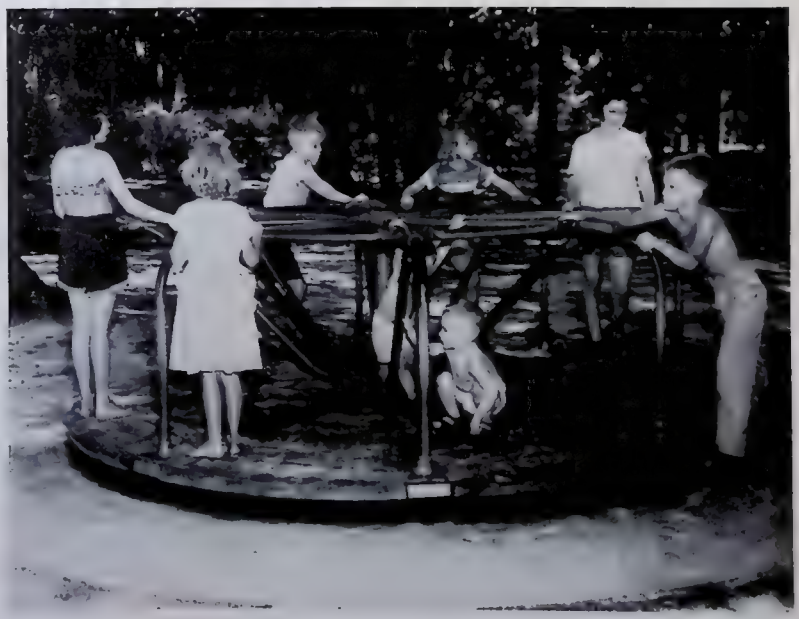
Another procedure which greatly simplifies installation, maintenance and replacement problems is standardization of equipment. An increasing number of drive-in theatre owners are standardizing on equipment of certain approved manufacturers. In this way, replacement is greatly simplified, even though many years have elapsed since the part originally was purchased. There are no orphan units or parts, and finally, familiarity with the units or parts of one manufacturer gradually makes installation, repair and maintenance work much simpler, less costly and much more efficient.

CONCLUSION

Community Theatres, the well known partnership of the Goldberg Brothers, Adolph and Irving, and Charles A. Komer, has equipped three children's playgrounds with American apparatus at its Detroit drive-ins, the Town, Bel-Air and Grand River.

One of the partners states that the drive-in theatre and children's playground are twin essentials in the ozoner business. "They're like pork and beans," he explains.

He added that children's playgrounds start the traffic coming early to the drive-in. While there is still daylight and the customers can drive their cars to the parking ramps unassisted, the ushers supervise the playgrounds. They see to it that the children are given their turns on the apparatus, and able to get full benefit from the facilities.



THE POPULAR merry-go-round is an almost irresistible lure for youngsters, and this particular model was constructed to carry a capacity load of 25 passengers. It provides hours of healthful fun.

Steel for Screen Towers

The Evolution of the Drive-In Theatre Steel Screen Tower Is Studied in Detail by One of the Pioneers in the Field

By S. Herbert Taylor
Consulting Engineer

BRIEF: *One of the major developments in the early days of drive-in theatres was the realization that steel would make the best material from which to construct the screen tower . . . The problem of constructing a tower that combined strength . . . beauty . . . and economy was the one that faced the author . . . This article presents his detailed account of how he helped to evolve the steel screen tower . . . and the refinements that have been developed to increase its functional and decorative uses.*

Drive-in theatre operators . . . or prospective operators . . . will be interested in the description of a steel screen tower that can be constructed . . . including foundations . . . for under $10,000.

It was inevitable that steel should be early selected as the material out of which to build the frame of the drive-in theatre screen. Steel had long been the material to use in the construction of large sign boards, and the drive-in theatre screen was a still larger, or glorified sign board.

The first drive-in theatre constructed in Camden, New Jersey, in 1933, had a screen with a wood frame, but this was the experimental theatre. Later the same screen was reconstructed with a steel frame at Union, New Jersey, where it still stands as part of one of the most profitable drive-in theatres in the country. Howard Hall, a Camden architect, designed the first theatre, including the screen. Your author, a civil engineer, was employed to lay out the theatre and apply the ramp system to the surface of the theatre tract. Our job was also to measure the large amount of earth which was moved in to form the ramps. This led to a division of responsibility on the Union Theatre, where Hall designed the steel frame screen and your author the ramp system, which, involving earthwork, required the skills of a civil engineer. We had, in the interim, made several grading plans for drive-in theatres in other parts of the country.

Sail in the Wind

Since structural design is also a function of the civil engineer, it was inevitable that we should turn to screen design. Our purpose was to simplify the old bulky framing, which required a large amount of covering, and the appearance of a clumsy building in something that was not a building. Our conception was a huge, "sail in the winds." Steel was selected as the most suitable material for this type screen, from the standpoints of economy and lasting qualities.

First Attempt

Our first attempt seems rather crude today, although the principal involved was sound—to use factory rolled shapes in place of a large amount of field fabrication. The frame consisted of I beam columns, braced to withstand the wind and anchored to a concrete foundation to prevent overturning. Such screens were built at Morrisville and Paramus, New Jersey.

An interesting problem arose concerning the construction of this screen. We had designed a wood panel, which could be hoisted and slipped between the flanges of the I beams. The screen face and also a rear face, for advertising purposes, were produced by a number of these panels. The field erection was very simple, involving only lifting the panels in place, bolting up, and placing small cover strips across the faces of the I beams. Bids produced a figure of $2,500 for the pre-assembled panels and their delivery to the site; a figure of $7,500 for their erection.

We could not understand the extremely high erection figure. Finally it was determined that a jurisdictional labor problem was involved. The steel workers would not erect the wood panels, although they could easily have done it in a couple of days. Being wood, they had to be erected by carpenters, and carpenters could not erect them without scaffolding. We calculated the cost of the scaffolding was around $6,000. Needless to say, the panels were never assembled and erected. We changed to steel plates, stiffened and fastened in place by welding. The amount of work to be performed off the ground was far greater, but it was on steel, not wood, so no scaffolding was required.

THE AUTHOR'S FIRST attempts at creating a functional steel drive-in screen tower made use of I beam columns braced to withstand the wind. D-I's at Morrisville (left) and Paramus (right) N. J., were first to use this design.

AN END VIEW OF the screen erected at Gloucester, N. J., which was the first curved screen to be constructed in an outdoor theatre.

ANOTHER VIEW of the Gloucester tower shows workers placing the steel cover plates, and it also indicates the concave nature of the screen.

A screen of the original design was, however, constructed in the State of Washington, where this jurisdictional problem apparently did not come up.

SLOPED SCREEN

The problem of light on the screen was always an important one in drive-in theatres. Intensities such as are obtained in conventional houses are impossible, the size of the screen being so large. It was natural, therefore, that the industry soon turned to a sloped screen to improve the return of the light to the theatre. We adapted our I beam frame to the sloped design and, as a variation, used crossed I beams to produce the V-type screen erected at Roanoke, Virginia. All of these designs wasted steel at the top of the I beam columns, because as we went up the column less cross section was needed to overcome wind pressure. The I beam, of course, had a uniform section. However, these designs were built during the depression when the price of steel was very low and the cost of the extra steel was more than made up by the saving in the labor of fabrication.

Concave Screen

A further refinement of the sloped screen was the curved or concave screen, the curve running from the bottom to top of the picture; again, to better gather the light and return it to the theatre, and to reduce distortion at the sides of the theatre.

We were first with this design in the Totawa, Asbury Park and Gloucester theatres, all of them located in New Jersey. We had originally planned to use I beams for the vertical members but the fabricator on these contracts suggested a built-up section of steel plates and channels which could be tapered to suit the lesser stresses as you approach the top of the beam. This scheme was followed although no economy resulted from the saving of steel, this saving being used up by the large amount of welding in the fabrication process. The scheme, however, produced a beautiful structure. We finally had achieved our "sail in the wind."

We designed a further screen of this design to withstand 135 miles-per-hour wind loads in Florida. It was constructed in the Biscayne Boulevard, Miami, theatre of the Wometco circuit.

Cheaper Screen

We were still discouraged with the cost of the large amount of fabrication on the screen. The vertical members were all assembled of cut plates and channel sections with a very large amount of welding. Determined to lick this problem, we produced a similar design out of simpler shapes with one-half of the welding. We reduced the cost to approximately $15,000, including foundation—a reduction of about $10,000. This screen was built outside of Trenton, New Jersey, and a variation of same at Clifton Heights, Pennsylvania.

We felt we had achieved a screen of distinction and marked economy. However, for these theatres which require a still cheaper construction, we evolved a guyed screen which reduced the steel and foundations to the point where we could deduct another $6,000 from the total cost. This screen, in a large size, was built in Bridgeton and Wildwood, New Jersey, and on Route 309 in Pennsylvania, for approximately $9,000, including foundations.

CONCLUSIONS

Screens should be designed for the individual theatre. The engineering fee is soon saved, many times over, through the use of a local fabricator, selected from several who have been invited to bid on the individually prepared plans and specifications. Not only do the foundations need to be changed with the changing soil conditions, but the size, type and strength requirements vary with the size and locality of the theatre, and the location of the screen within the theatre.

The types of screen here discussed are functional. They serve one purpose, to provide the best surface for the projected picture. If economically designed, they will appear trim and beautiful. Such screens belong in a functional theatre, with functional location of ticket booth, projection and concession buildings and office.

There will be those who still, falling back on indoor tradition, will want the screen, ticket booth, and office and storage space located in a building also supporting the screen. An imposing building can be achieved by this method, but at the sacrifice of economy and the best layout of the theatre, and unless a high degree of skill is used, at the sacrifice of beauty also.

We suggest that a drive-in theatre is a creation radically different from an indoor theatre. The drive-in is a part of the landscape; of nature. When it finally arrives at its best, it will be beautifully landscaped, with grass ramps, trees, flowering and fragrant shrubs and flowers. Such a theatre will be doubly attractive to patrons already taught to enjoy fresh air and outdoor freedom with their movies. Drive-in operators should never forget that they can use Mother Nature as a selling angle.

IN ORDER TO create a sturdy and cheap screen a design using simpler shapes, was developed.

SEEKING A STILL more economical screen tower a guyed screen was created for $9,000.

Another Home in a Screen Tower

A South Carolina Exhibitor Builds a Dwelling That Few Rural Families Can Top for Comfortable Living

There's no place quite like home for the family of Howard T. Chapman, owner and operator of the Cherry Hill Drive-In, Cowpens, S. C. For home, in this case, is a deceptively roomy lean-to structure in the screen tower of their theatre, and few rural families can top it for comfortable living.

The two-story dwelling has a living room, bedroom, kitchen, and bathroom on the first floor, and maid's quarters, another bedroom, another bath, and a large storeroom upstairs. There is enough space in the entire structure to provide 12 rooms.

The idea of building the house in the screen tower was conceived at the same time that construction on the drive-in was begun, and the building of both was directed by Chapman, without the aid of formal plans and with mostly unskilled labor.

Construction of the house is along simple lines. Ten large creosoted poles form the main support of the structure, with five of these, 65-foot base poles spaced 12½ feet apart, holding the framework for the face of the screen, and five "pusher" poles placed in a leaning position 24 feet directly behind the base poles. Viewed in profile, the structure is a right triangle, with the base formed by the ground line, the side formed by the screen edge, and the hypotenuse represented by the sharply sloping roof of the house. The "pusher" poles were securely fastened to the base poles 11½ feet from the top of the latter. Large bridge spikes were driven around the bottoms of all ten poles to grip them firmly in steel-reinforced concrete of the front porch.

Supporting the roof of the front porch are five concrete block columns, built four feet behind each "pusher" pole, and reinforced with storm drain pipe on the inside. Two other columns like these were constructed, one on the entrance side of the theatre, and one at the exit, as starting points for the aluminum fence that surrounds the drive-in.

The house is of frame construction with white asbestos shingles. A ladder has been installed up the center of the aluminum roof for use when the screen is painted. A six-inch asbestos tube was run from the house chimney at the porch line to the top of the screen tower to eliminate back drafts. Ventilators for the dwelling areas have been set in the side of the building.

From the front porch, measuring 10 feet, three inches by 51 feet, eight inches, the front door opens into a large living room that has been tastefully furnished with antiques and decorated in a pastel shade of dusty rose. The Chapmans plan to put an arch through the living room into the space where the piano now stands (see accompanying photograph) to lead into a combination den and bedroom to be built under a large stage which will be erected for the presentation of "live" shows. Also contained in this area under the stage will be a back porch and an adjoining garage.

The 24½ x 18½-foot bedroom area accommodates the entire family, and has a number of closets. The walls are done in light blue, and the floor is covered with gray-black asphalt tile. Adjoining is a tile bathroom. An intercommunication system connects the bedroom to the boxoffice, and is left on all night to warn of intruders.

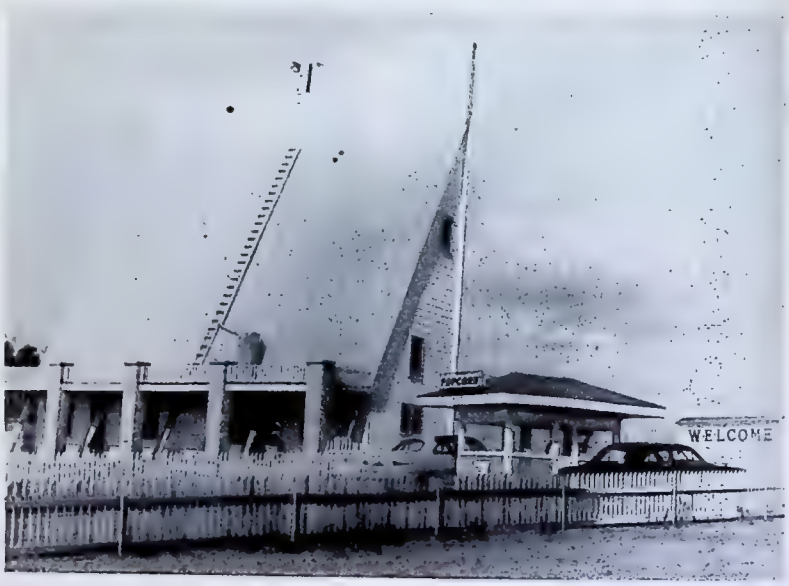
The 17 x 13-foot kitchen is done in pale yellow with white enamel woodwork and white plastic tile which runs around the room under large double windows to the back door. The asphalt tile floor is cream with traces of red.

A door in the kitchen opens on a flight of stairs which lead up to the second floor. Here are found two finished rooms, one of which is occupied by the maid, and a bath. The maid's room, measuring 13 feet by 14 feet, is done in pale green. One of the unfinished rooms is used for storage and drying laundry in bad weather.

The drive-in home is heated by an air circulating oil burner installed in the bedroom. Since the dwelling is insulated with rock wool, it is quite easy to heat in the cooler months, and is comfortably cool in summer.

This insulation, as well as shutters on the windows, also helps to seal out sound when the show is on. The heat circulates through the downstairs rooms by its own radiation, and is carried upstairs by air currents when the kitchen entrance door is left slightly ajar.

Just outside the doorstep of their novel home whose excellence gives them every reason to be proud, the Chapmans



THE TWO-LANE ENTRANCE leads past the boxoffice. The corrugated sheathing matches that of the parking area fence and of the screen tower roof under which is the comfortably modern Chapman's home.

BRIEF: *Home for the family of Howard T. Chapman is the screen tower of their Cherry Hill Drive-In, Cowpens, S. C. . . . Slanted supports for the screen form the framework of the dwelling . . . which is big enough for 12 large rooms . . . Downstairs are a living room, bedroom, kitchen, and bath . . . while upstairs are another bedroom, another bath, a large storeroom, and maid's quarters.*

While the Chapmans' home is not unique . . . (the 1948-49 edition of THEATRE CATALOG described a similar project built by a Salt Lake City exhibitor) . . . its very excellence merits mention here. Built without formal plans . . . and with mostly unskilled labor . . . the screen tower-house, as well as the theatre itself, typifies the ingenuity and resourcefulness that characterize the American showman.

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have built for themselves a thriving business in the Cherry Hill Drive-In.

The Cherry Hill Drive-In

Ideally located on U. S. Highway 29, the main Canada-to-Mexico route, the Cherry Hill Drive-In looks out over gently sloping green fields, pine woods, and peach orchards. Dotting the surrounding landscape are neatly kept farms and the sprawling textile mills from which the theatre draws the bulk of its patronage.

No less than three paved roads, all more than a half mile apart, enter the theatre's 23-acre site from Highway 29, so there is no need for a service loop to keep traffic flowing smoothly. The three entrance roads, which also serve as exits, merge into a single dual-lane drive that leads into the theatre.

The parking area, illuminated by "moonlite" lighting and surrounded by an aluminum fence, contains 318 in-car speakers. However, 450 cars can be parked on the eight ramps, and multiple use of some of the speakers can be made, due to the stillness of the countryside and excellent sound transmission. The gentle slope of the parking field assures good drainage, as rainwater from each ramp is carried down to the aluminum fence and is carried away by large concrete spillways.

The projection booth, restrooms, and refreshment stand are all housed in a concrete structure set in the middle of the field, and nearby are benches for walk-in patrons. Water is supplied to both the projection-refreshment building and the screen tower house by a deep well, and a large septic tank serves both structures also.

Actual size of the picture on the screen is 32½ feet, by 44 feet, but there is a span of 18½ feet from the ground to the screen surface to accommodate the rear of Chapman's house. Rocker-type parking ramps are used for the best viewing, as the screen is set so high.

The theatre has no public playground as yet, but swings have been erected for the two Chapman children on a grassy plot directly under the screen. Marsha, six, and Tommy, three, also have a private playground, enclosed by a white picket fence, in front of the house.

The screen tower is decorated with a border of blue neon tubing running across the top and 10 feet down the sides, and three large red neon cherries with green leaves and stems on each side of the tower roof. These lights, which match a popcorn sign on the boxoffice, are controlled by switches in the boxoffice. Floodlights facing both directions are mounted on top of the screen tower, and may be switched on or off from either the house or the boxoffice.

A hard-working, enterprising showman, Howard Chapman owns the roofed Cowpens Theatre in Cowpens, and, in addition to the operation of this and the Cherry Hill Drive-In, he somehow finds time to look after 150 acres of peach orchards and some rental property (six houses and a beauty shop).

Aside from having all of the conveniences found in any other type of first-class residence, Chapman estimates that with his home in the screen tower he saves approximately $175 a month in rent and wages for a night watchman.

The Chapmans have no desire to become isolationists (at night their "backyard" is filled with "company") but they aren't confronted with the usual problems of the average family. Neighbors never rush in to borrow their last cup of sugar, and their children have complete freedom from fear of a black eye at the hands of the kids next door.

And even the fact that cowboys ride their steeds across the side of their house and Hollywood's greatest lovers pitch their woo just a few feet away from the kitchen sink doesn't bother the Chapmans a bit.

The whole family firmly maintains that they wouldn't trade places with anyone they know, for they sincerely believe that nowhere else could they find such a full measure of happiness as that which they enjoy in their home in a screen tower.

ABOVE IS A CORNER of the 17'8" by 13'3" living room. Below is the 24'4" by 17'8" bedroom.

A RARE IDLE MOMENT is enjoyed by Howard Chapman while his wife does the dishes in the completely up-to-date 17'8" by 13'3" kitchen of their drive-in home, shown in the cozy scene below.

Drive-In Theatres of the 1953 Season

Their Locations, Capacities, and Ownerships A Breakdown by Territories and States of

BRIEF: *This fourth annual survey of the drive-in theatres of the United States . . . compiled to provide the most accurate and complete list of outdoor theatres which are now in operation . . . or that definitely will be operating during the 1953 season . . . is a valuable operational tool for equipment dealers, film distributors, and drive-in owners . . . as well as an index of the current status of drive-ins, nationally and in particular areas.*

The 3,841 theatres listed here . . . classified both by film distribution territories and by states . . . represents an increase of 675 over last season's 3,166 . . . the removal of the Governmental ban on materials and building is seen as the chief cause for the spurt in drive-in construction.

Use of this breakdown for mailing list purposes, without the permission of the publishers . . . is positively restricted.

On June 30, 1953 all Government restrictions on theatre construction and the allocation of building materials were lifted completely. A few months earlier, restrictions had been partially lifted. Almost immediately, and with an impact not unlike that of a bursting dam, new drive-in theatres began mushrooming all over the country.

Despite the uneasy world situation, both experienced theatremen, and newcomers to the field, were willing to place their time, effort and fortunes into open air motion picture theatres.

Estimates for total new drive-in construction in 1953 ranged anywhere from 1,000 to 5,000. However, as with all "estimates" were based almost wholly on guesswork, intuition, and wishful thinking.

Realizing the importance of replacing guesses with facts, the editors and staff of THEATRE CATALOG proceeded to compile the most complete listing of drive-in data yet assembled.

Since this exclusive listing was instituted for the benefit of CATALOG readers some four years ago, the job of maintaining a watch over every drive-in in the United States has become increasingly difficult. The obvious reason is of course the tremendous growth of this form of theatre exhibition.

In 1942 there were some 90 existing drive-ins scattered across 27 states. Following World War II, and with the lifting of restrictions on gasoline and travel, a real boom started. The first authentic, state-by-state locally checked and nonduplicating list was assembled for publication in the 1949 edition, and listed 748 theatres with individual ownerships, and with individual car capacities that totaled 311,203, or an average of 416 speakers.

In 1950 this same locally checked list showed a growth to 1,753 theatres with total car capacity of 784,645 speakers, or an average per theatre of 447. Continued growth brought 1951's total to 2,703 theatres with 1,175,426 cars, and 1952 continued with 3,166 theatres and 1,354,706 cars.

As in the previous three listings, every effort has been made to check the accuracy of the compilation. All data was compared with the drive-in lists of several major film distributing companies, and all discrepancies were marked for clarification and correction. A first class mailing was made to the theatre owner of each of the 3,841 listed, so that any undeliverable postal address might be checked, and either reconciled or deleted. The survey resulting is not only an accurate operational tool for equipment dealers and film distributors, but provides a clear picture of the current status of drive-ins, nationally and in particular areas.

The results of this survey show that at the time the list was made up there were 3,841 outdoor theatres in operation with a total car capacity of 1,621,069, or an average of 422 cars. For the comparable period last year there were 3,166 theatres with a car capacity of 1,354,706, or an average of 428 cars.

Therefore, in the past 12 months some 675 new drive-ins were put into operation in the United States. It is interesting to

DRIVE-IN THEATRES AND THEIR CAR CAPACITIES BY FILM DISTRIBUTION TERRITORIES

Film Distribution Territory:	*Operating — 1953 Season* No. of Theatres	Total Cars	Average Cars
Albany, N. Y.	55*(1*)*	22,513	409
Atlanta, Ga.	436*(5*)*	155,215	356
Boston, Mass.	128*(7*)*	67,079	524
Buffalo, N. Y.	46	26,523	576
Charlotte, N. C.	364	96,854	266
Chicago, Ill.	66*(1*)*	44,876	680
Cincinnati, O.	149*(2*)*	64,560	433
Cleveland, O.	96	44,264	461
Dallas, Tex.	415	174,950	422
Denver, Colo.	104*(1*)*	46,060	433
Des Moines, Ia.	49*(2*)*	20,960	428
Deteroit, Mich.	91*(1*)*	51,249	563
Indianaolis, Ind.	126*(2*)*	56,379	447
Kansas City, Mo.	156*(1*)*	60,201	386
Los Angeles, Cal.	98	60,691	619
Memhis, Tenn.	110*(10*)*	42,499	386
Milwaukee, Wis.	53*(2*)*	28,167	531
Minneapolis, Minn.	79*(8*)*	32,851	416
New Haven, Conn.	24*(2*)*	16,009	667
New Orleans, La.	156*(2*)*	63,641	408
New York, N. Y.	36	22,636	630
Oklahoma City, Okla.	128*(13*)*	50,197	392
Omaha, Neb.	44*(2*)*	17,306	393
Philadelphia, Pa.	106*(2*)*	55,908	527
Pittsburgh, Pa.	131*(3*)*	55,261	422
Portland, Ore.	66*(4*)*	29,360	445
St. Louis, Mo.	120*(1*)*	51,695	431
Salt Lake City, Utah	87	33,494	385
San Francisco, Cal.	100*(2*)*	55,131	551
Seattle, Wash.	60*(5*)*	26,075	435
Washington, D. C.	162	48,465	299
Total	3,841*(79*)*	1,621,069	422

(*). Whenever car capacities could not be ascertained, the theatres themselves were included in the totals, and the number unverified was signalled in the accompanying parenthesis. For each such theatre, the average car capacity of the known theateres in the particular state was then added to the gross car capacities of the territory, in order to project the most probable totals. Theatres so treated represent less than 2% of the grand total.

note that in 1951 there were 950 new theatres constructed. This means that the upward spiral has begun again after a minor slump in 1952.

A fact which has held true for the past few years is the decreasing size of drive-ins. In 1950 the average outdoor theatre held 447 cars, in 1951 it dropped to 435, last year it was 428, and this year the average is down to 422. The reason for this was the Governmental system of controlling building materials. Since exhibitors could only get a limited amount of material, the size of their drive-ins were also limited. However, many of these small drive-ins were so constructed that they could be expanded, and many outdoor theatres are presently in the process of enlarging. Another reason for the smaller drive-in is the fact that the areas around large population centers have reached the saturation point, and the emphasis has shifted to the small towns and rural communities which have no need for 1500 car theatres.

Showing a steady rise, the Atlanta exchange territory moved into the number one place with 436 theatres in operation. This represents an increase of 92 drive-ins in that territory, and the third year in a row in which the Atlanta area has moved up in the standings. Last year's leader, Dallas, placed second with 415, an increase of 48 over last year. Maintaining the same position it held in 1952, the Charlotte territory shows 364 outdoor theatres in operation, which is an increase of 56. Although the Cincinnati territory saw a jump of 13 theatres, raising its total to 149, it dropped from fourth place to seventh. It is interesting to see that the Kansas City territory ranked fifth, since it did not even make the top 10 last year.

Taking its usual spot as the number one state, Texas leads the way with 409 drive-ins, or an increase of 58. North Carolina ranks second with 241 drive-ins, as compared with 213 in 1952. California remains in the fifth position with 163, but the important thing here is that last year that state showed a decrease of five. This trend has been reversed and the state now has 10 more drive-ins than it did last year.

DRIVE-IN THEATRES AND THEIR CAR CAPACITIES BY STATES

NOTE: Only operating theatres, or those due to operate during the 1953 Season, are included in these totals.

States:	No. of Theatres	Total Cars	Average
Alabama	93(2*)	33,400	359
Arizona	29	13,819	417
Arkansas	66(5*)	26,047	523
California	163(1*)	99,258	609
Colorado	44(1*)	21,270	483
Connecticut	25(2*)	16,424	657
Delaware	8	4,129	516
District of Columbia	0	0	0
Florida	160(2*)	61,267	383
Georgia	128(1*)	42,966	336
Idaho	33(2*)	11,393	345
Illinois	118(3*)	66,209	561
Indiana	113(1*)	54,796	485
Iowa	59(2*)	25,015	424
Kansas	97	39,453	407
Kentucky	78(3*)	29,295	376
Louisiana	80	39,393	430
Maine	27(2*)	13,341	494
Maryland	21	7,887	376
Massachusetts	56(2*)	33,757	603
Michigan	98(1*)	54,199	553
Minnesota	40(2*)	16,881	422
Mississippi	57(2*)	20,806	365
Missouri	111(2*)	41,924	378
Montana	33	11,065	335
Nebraska	36(1*)	14,110	392
Nevada	5(1*)	2,245	449
New Hampshire	19(2*)	7,992	421
New Jersey	25	16,486	659
New Mexico	44	18,783	427
New York	119(1*)	59,714	502
North Carolina	241	66,533	276
North Dakota	15(3*)	5,599	373
Ohio	173	81,718	472
Oklahoma	112(12*)	45,703	408
Oregon	62(3*)	27,572	445
Pennsylvania	183(3*)	91,220	498
Rhode Island	6(1*)	4,080	680
South Carolina	124	30,521	246
South Dakota	25(2*)	9,754	390
Tennessee	113(3*)	40,447	358
Texas	409(1*)	171,808	420
Utah	29	14,001	483
Vermont	21	8,262	393
Virginia	129	37,392	290
Washington	55(4*)	24,898	453
West Virginia	83(3*)	26,939	325
Wisconsin	54(3*)	29,245	542
Wyoming	22	7,053	321
Total	3,841(79*)	1,621,069	422

(*) Wherever car capacities could not be ascertained, the theatres themselves were included in the totals, and the number unverified was signalled in the accompanying parenthesis. For each such theatre, the average car capacity of the known theatres in the particular state was then added to the gross car capacities of the state, in order to project the most probable totals. Theatres so treated represent less than 2% of the grand total.

Analysis by Film Territory

As has come to be expected, the territories located in the middle of the rural and small town population masses, show the greatest number of drive-ins. Every territory shows an increase over the previous year. However, some of the standings have been changed, and the Indianapolis territory failed to make the top 10 this year. The biggest change, of course, was Cincinnati, which dropped to seventh place after placing fourth in 1952.

Film distribution territories with the largest number of drive-in theatres are as follows:

Territories	Theatres
1. Atlanta	436
2. Dallas	415
3. Charlotte	364
4. Washington, D. C.	162
5. Kansas City	156
6. New Orleans	156
7. Cincinnati	149
8. Pittsburgh	131
9. Boston	128
10. Oklahoma City	128

This marks the first year that two territories, Atlanta and Dallas, show more than 400 drive-ins.

A look at the average car capacities in the various territories reveals some interesting facts. For one thing in the list of the areas with the highest car capacity averages, not one of the territories listed as having the most drive-ins, is to be found. As a matter of fact, five of these territories, Charlotte, Atlanta, Kansas City, Oklahoma City, and New Orleans are included among the territories with the smallest car average.

Territories with the highest average size drive-in are as follows:

Territories	Average Size
1. Chicago	680
2. New Haven	667
3. New York	630
4. Los Angeles	619
5. Buffalo	576
6. Detroit	563
7. San Francisco	551
8. Milwaukee	531
9. Philadelphia	527
10. Boston	524

It should be noted that in this list of territories with the highest average size drive-in, four of them, New Haven, New York, Buffalo, and Milwaukee are among the territories with the least number of outdoor theatres.

Analysis by State

Except for a few rather minor changes the standings of the states with the most drive-ins remains similar to last year. The biggest change saw Indiana with 113 drive-ins, representing only an increase of two, drop from the first 10 and be replaced by South Carolina, which has 124 outdoor theatres in 1953 as compared with 96 in 1952. In another change New York dropped from seventh with 112, in 1952, to tenth this year with 119 drive-ins. All states showed an increase over last year. The states with the most drive-ins are as follows:

States	Theatres
1. Texas	409
2. North Carolina	241
3. Pennsylvania	183
4. Ohio	173
5. California	163
6. Florida	160
7. Virginia	129
8. Georgia	128
9. South Carolina	124
10. New York	119

States with the fewest drive-in theatres are as follows:

States	Theatres
1. Nevada	5
2. Rhode Island	6
3. Delaware	8
4. North Dakota	15
5. New Hampshire	19
6. Vermont	21
7. Maryland	21
8. Wyoming	22
9. Connecticut	25
10. New Jersey	25
11. South Dakota	25

Every state in this group showed an increase over last year. The 11 states listed have a total of 173 drive-ins as compared with 132 in 1952, thus representing a total gain of 31 theatres.

Conclusion

There can be little disputing with the fact that an increase of 675 new drive-ins is a substantial gain. However, for a number of reasons, it does not represent the maximum number of theatres that will be built before the end of 1953. It was unfortunate that the Government ban was lifted so late. It is rather amazing the total number of new drive-ins that were built in the short span of time between the partial lifing of the ban and the publication of this list. It appears to be rather safe and conservative to assume that many more new outdoor theatres will have been built before the final days of 1953 arrive.

On the following pages are the detailed listing of individual theatres from which the above statistics were drawn. While the Editors have every reason to believe that the survey is as complete and accurate as is humanly possible to produce, it is possible that a few minor errors and omissions are present. For this reason, plus the fact that the listing is subject to changes by virtue of new ownership, enlarged or reduced capacities, closings, and the addition of new theatres, its use as a mailing list without first consulting the publishers for changes and additions, is not recommended. Moreover, permission to use the survey for a mailing list must first be obtained from the publishers.

A LISTING BY DISTRIBUTION TERRITORIES

NOTE: This 1953 list took several months to prepare, and has resulted from the cross-checking of numerous film distributor and supply dealer lists of their customers, with the resulting compilation being sent out into each of the 31 film distribution territories for field testing to eliminate duplications and inconsistencies. It is believed to be the only true list of such theatres in existence, accurate and complete as of July 15, 1953.

The rural nature and highway locations of such theatres make accurate addressing most difficult. Owners themselves make understandable mistakes regarding the location of township and boro lines, and of the postal routes which dictate their mailing address. Wherever possible, postal routes and post boxes have been listed; and where a particular hamlet has no postal office, communications should be directed to the owner at his address.

Numerals in parentheses behind each listing are the reported car capacities of each.

Where particular theatres are operated by circuits or owners in other than the particular location, or when film is booked by an agent or cooperative buying combine, some effort is directed toward listing the latter's business location or home address.

ALBANY TERRITORY
New York

(NOTE: See also Buffalo and and New York Territories)

Alexandria Bay, N. Y., THOUSAND ISLAND D. I. Exec: Donald Gilson, Bay Th., and Mr. Scalise. (298)

Black River, N. Y., BLACK RIVER D. I. Exec: Sylvan Leff, 951 Western Ave., Albany. (600)

Canton, N. Y., IDEAL D. I. Exec: A. P. Papayanakos, American Th. (500)

Canton, N. Y., SUNSET D. I., Canton Rd., Rt. 68. Exec: D. Gilson, Bay Th., Alexandria Bay. (246)

Colonie, N. Y., MOHAWK D. I., Schenectady-Albany Rd. Exec: Fabian Ths., 1501 Broadway, New York. (900)

Coxsackie, N. Y., HI-WAY D. I., 2 Miles So. of Coxsackie Traffic Circle. Exec: Mrs. Frieda Klein, Hunter Th., Hunter. (400)

Crown Point, N. Y., SKYLINE D. I. Exec: Lawrence Allen and S. Dwore. (300)

East Greenbush, N. Y., AUTO VISION D. I., Rts. 20 and 9, ½ Palace Th., Albany. Exec: Alan Iselin, 225 S. Manning Blvd., Albany. (400)

Gouverneur, N. Y., HI WAY D. I. Exec: James P. Papayanakos, Gralyn Th. (350)

Guilderland, N. Y., CARMEN D. I. Exec: John Morrotta, 248 E. Main, Amsterdam. (356)

Hudson, N. Y., SUNSET D. I., Route 9. Exec: Frieder and Grossman Ct., 35 Warren St. (450)

Hudson Falls, N. Y., DIX D. I. (Glens Falls), Box 388. Exec: L. S. Wells, Ken Mosher and Moe Bittman. (200)

Hunter, N. Y., MOUNTAIN D. I. Exec: Frieda Klein, Hunter Th. (375)

Lake George, N. Y., FORT GEORGE D. I., P. O. Box 244. Exec: Julius Perlmutter, 1044 Broadway, Albany. (460)

Lake George, N. Y., LAKE GEORGE D. I. (Glens Falls Rd.), Rt. 9, R. D. #1. Exec: Julius Perlmutter, 1044 Broadway, Albany. (276)

Lathams, N. Y., SARATOGA D. I., Saratoga Rd. Exec: Fabian Ths., 1501 Broadway, New York. (482)

Leeds, N. Y., LEEDS OPEN AIR D. I., Route 23. Exec: Harry Lamont, 100 State St., Albany. (200 and 100 Seats)

Little Falls, N. Y., VALLEY D. I. Exec: Robert Baranoff. (514)

Loch Sheldrake, N. Y., MOUNTAIN D. I. (Liberty.) Exec: Dr. Luther Grant, 12 Chestnut St. (464)

Lowville, N. Y., VALLEYBROOK D. I., R. D. #2. Exec: Robert Matuszezaka. (300)

Malone, N. Y., FRANKLIN D. I., Route 11. Exec: Jerry DuMont. (355)

Malta, N. Y., MALTA D. I. Exec: Sarto Smaldone, 75 Ballston Rd., Saratoga Springs. (370)

Messena, N. Y., SUNSET D. I., Route 37. Exec: Donald Gilson, Bay Th., Alexandria Bay. (350)

Menands, N. Y., MENANDS D. I. Exec: Joseph Miller, 55 Peyster, Albany. (475)

Nelliston, N. Y., CHIEF D. I. Exec: Hallenbeck and Riley. (350)

North Elba, N. Y., SARA PLACID D. I. (East Greenbush), P. O. Box 543. Exec: Edward Hoffman and E. Stauter. (—)

North Hoosick, N. Y., HATHAWAY'S D. I. Exec: F. Chase Hathaway. (400)

Norwich, N. Y., NORWICH D. I. (Oneonta), Cherry St. Exec: Pearlman and Kaufman, Jarvis Th., Binghamton. (500)

Ogdensburg, N. Y., RIVERSIDE D. I., Route 7. Exec: John Free, 519 Montgomery St. (250)

Oneonta, N. Y., DEL SEGO D. I. Exec: Bert Mitchell, William Warnken, Sr., 37 Maple St. (544)

Palatine Bridge, N. Y., EL RANCHO D. I. Exec: Clifton Hall, Jr., Colchester Th., Downsville. (430)

Plattsburg, N. Y., PLATTSBURG D. I., Morrisonville Rd., Box 203. Exec: B. W. Hobbs, Box 241, and L. Berry. (400)

Plattsburgh, N. Y., STARDUST D. I., 291 Margaret St. Exec: Mrs. Lillian Henry. (365)

Potsdam, N. Y., MOONLIGHT D. I., Route 56. Exec: A. P. Papayanakos, American Th., Canton. (480)

Pottersville, N. Y., STARLITE D. I. Exec: Whitman and Downey, 2 West St., Lake George. (450)

Richmondville, N. Y., COBLESKILL D. I. Exec: Julius Perlmutter, 1044 Broadway, Albany. (300)

Rockhill, N. Y., ROCKHILL D. I. Exec: Harry Lamont, 100 State St., Albany. (600 and 100 Seats)

Rotterdam, N. Y., RIVERVIEW D. I. Exec: Harry Lamont, 100 State St., Albany. (600)

Schuyler, N. Y., SCHUYLER D. I. Exec: Louis Goldstein, Box 608, 95 Oakland Ave., Gloversville. (550)

South Glens Falls, N. Y., AUST'S OPEN AIR D. I., Route 9. Exec: William H. Aust, RFD #1, Gansevort. (312)

Stillwater, N. Y., HUDSON RIVER D. I. (Schaghticoke), R. D. #2. Exec: Domonick Carelli, 24 Lyman St., Hoosick Falls. (400)

Tupper Lake, N. Y., TUPPER LAKE D. I. (Formerly TUPPER'S), P. O. Box 57. Exec: Leon Duchene and Richard D. Hayes, Grand Union Hotel. (350)

Utica, N. Y., KALLET D. I. (Marcy), Utica-Rome Rd. Exec: S. J. Kallet, Kallet Ths., Oneida. (796)

Utica, N. Y., WGAT D. I. (New Hartford), Kellogg Rd. Exec: J. Erick Williams, WGAT Broadcasting System. (536)

Vails Mills, N. Y., VAILS MILLS D. I. (Amsterdam), Route 30, R. D. #4. Exec: Louis Goldstein, Box 608, 95 Oakland Ave., Gloversville, and Harry Lamont, 100 State St., Albany. (400)

Voorheesville, N. Y., INDIAN LADDER D. I. Exec: Hallenbeck and Riley, 562 Broadway, Albany. (360)

Watertown, N. Y., NORTHSIDE D. I. Exec: Thomas Trombley, 602 Academy St. (450)

Watertown, N. Y., WATERTOWN D. I. (Formerly STARLITE), Adams-Watertown Rd., Rt. 11. Exec: Fred Kleemier, 527 Canton St., Ogdensburg. (400)

Westmere, N. Y., TURNPIKE D. I. Exec: John Gardner, 2216 Stoneridge Rd., Schenectndy. (400)

West Rome, N. Y., WEST ROME D. I. Exec: Louis Goldstein, Box 608, 95 Oakland Ave., Gloversville. (400)

West Sand Lake, N. Y., RUSTIC D. I. Exec: William Dorato, 57 Sheridan Ave., Albany. (300)

Whitehall, N. Y., WHITEHALL D. I., 66 Saunders St. Exec: John DiResta. (299)

Vermont

(NOTE: See also Boston Territory)

Castleton, Vt., FORT WARREN D. I. Exec: F. Chase Hathaway, N. Hoosick, N. Y. (400)

North Bennington, Vt., ANTHONY D. I. (Formerly BENNINGTON). Exec: J. Alonzo, A. R. Willard and Affiliated Th. Corp., Park Square Bldg., Boston, Mass. (368)

ATLANTA TERRITORY

Alabama

(NOTE: See also New Orleans Territory)

Abbeville, Ala., BENNETT D. I. Exec: Ward Bennett, % Walker Th., Fort Gaines, Ga. (200)

Alabama City, Ala., GROVE D. I. (Gadsden). Exec: B. W. Wright. (350)

Albertville, Ala., MARSHALL D. I., Box 223. Exec: T. E. Orr, Amusement Ent., Inc. (500)

Albertville, Ala., SHADY SIDE D. I., Box 223. Exec: T. E. Orr, Amusement Ent., Inc. (400)

Alexander City, Ala., PINES D. I. Exec: Mack Jackson. (350)

Anniston, Ala., BAMA D. I. Exec: J. E. Aaron. (490)

Anniston, Ala., MIDWAY D. I., Route 1. Exec: H. W. Fulwider. (350)

Athens, Ala., HATFIELD D. I., Route 1. Exec: Fred Raney. (225)

Auburn, Ala., A AND O D. I. (Opelika), P. O. Box 471. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (430)

Bessemer, Ala., AUTO MOVIES D. I., P. O. Box 415. Exec: L. C. Worthington. (275)

Bessemer, Ala., BESSEMER D. I., Route 8. Exec: C. E. Ambrose. (200)

Birmingham, Ala., FAIR PARK D. I., Hwy. 31. Exec: N. H. Waters, Waters Th. Co., 726 S. 29th St. (650)

Birmingham, Ala., ROEBUCK D. I., Hwy. 11. Exec: N. H. Waters, Waters Th. Co., 726 S. 29th St. (500)

Birmingham, Ala., SHADES MT. D. I., Hwy. 31. Exec: N. H. Waters, Waters Th. Co., 726 S. 29th St. (500)

Birmingham, Ala., STARLITE D. I. Exec: N. H. Waters, Waters Th. Co., 726 S. 29th St. (818)

Bridgeport, Ala., SOUTHPORT D. I. Exec: Mack Nation. (250)

Centre, Ala., 411 D. I. Exec: Emory Johnson, % Cherokee Th. (287)

Clanton, Ala., CLANTON D. I., P. O. Box 222. Exec: J. A. Jackson. (416)

Cullman, Ala., 31 D. I., Box 15. Exec: Brown and Jones. (290)

Decatur, Ala., SUNSET D. I., P. O. Box 1157. Exec: Crescent Amuse. Co., 5th Ave., N., Nashville, Tenn. (400)

Demopolis, Ala., GROVE D. I. Exec: H. D. Webb, % Marengo Th. (250)

Dothan, Ala., BAMA D. I. Exec: Martin Th. Ct., P. O. Box 471, Columbus, Ga. (225)

Dothan, Ala., SKYVUE D. I. Exec: Martin-Davis Ths. Ct., P. O. Box 471, Columbus, Ga. (400)

Enterprise, Ala., CECIL D. I. (New Brockton). Exec: C. W. Wade. (350)

Enterprise, Ala., M AND O D. I., RFD # 1. Exec: Mrs. Luther Murphy. (200)

Eufaula, Ala., BAMA D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (322)

Fayette, Ala., DIXIELAND D. I. Exec: R. C. Cobb, % Richards Th. (270)

Florence, Ala., JOYLAN D. I., 1130 N. Wood Ave. Exec: Dan W. Davis. (700)

Florence, Ala., WILSON D. I., Box 642, Lee Hwy. Exec: W. W. Hammands. (536)

Fort Payne, Ala., HAMILTON D. I., 206 - 6th St. Exec: D. Hamilton. (350)

Gadsden, Ala., RAINBOW D. I. Exec: Charles Pitman, % Pitman Th. (310)

Gadsden, Ala., RANCH-W D. I. Exec: B. Ward Wright. (300)

Gadsden, Ala., TOWER D. I. (East Gadsden), Anniston Hwy. Exec: B. Ward Wright. (422)

Geneva, Ala., STARLIGHT D. I. Exec: P. Howell. (325)

Graysville, Ala., THC D. I. Exec: The Theatre Co., Inc., % Pastime Th., Carbon Hill. (326)

Hartford, Ala., H AND R D. I. Exec: O. A. Robbins. (180)

Hartselle, Ala., RANCH D. I. Exec: Hubert R. Mitchell. (500)

Headland, Ala., GOOBER D. I. Exec: E. C. White. (326)

Huntsville, Ala., 231 D. I. Exec: R. Parham, % Arnold D. I., Tullahoma, Tenn. (200)

Huntsville, Ala., WHITESBURG D. I., P. O. Box 558. Exec: F. H. Thomas. (450)

Huntsville, Ala., WOODY'S D. I., Hwy. 241. Exec: Rhett Woody. (330)

Jasper, Ala., MANCHESTER D. I., 1009 Highland Ave., Hwy. 5. Exec: John Miller, Dixie Th., Cordova. (225)

Jasper, Ala., 78 D. I. Exec: John Miller, Dixie Th., Cordova. (325)

Lanett, Ala., VALLEY D. I. Exec: Mrs. Alberta Petrey. (400)

Lincoln, Ala., STARLITE D. I. Exec: Joe Watson. (217)

Luverne, Ala., CRENSHAW D. I. Exec: S. C. King. (300)

Montgomery, Ala., FAIRVIEW D. I. Exec: Wilby-Kincey Ths. Ct., 154 Walton St., N.W., Atlanta, Ga. (550)

Montgomery, Ala., JET D. I., 148 Duncan Dr. Exec: Mat and Jimmy Suraci. (500)

Montgomery, Ala., MONTGOMERY D. I., Hwy. 31. Exec: H. P. Rhodes, 2450 Peachtree Rd., Atlanta, Ga. (450)

Muscle Shoals, Ala., PARK VUE D. I. Exec: T. T. Miller. (400)

Oneonta, Ala., BLOUNT D. I., P. O. Box 560. Exec: L. M. Neely, Neely Ths., Marion. (375)

Opelika, Ala., SKYVUE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (206)

Oxford, Ala., SKYWAY D. I. (Anniston). Exec: O. L. Redfern. (425)

Ozark, Ala., FAN D. I. Exec: Mrs. W. J. Brackin, Brackin Th., P. O. Box 179. (300)

Pell City, Ala., ST. CLAIR D. I. Exec: Mrs. H. P. Higgenbotham. (200)

Phenix City, Ala., PHENIX D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (400)

Piedmont, Ala., PIEDMONT D. I. Exec: L. H. Howell, Edward and Joe Little. (300)

Prattville, Ala., PRATTMONT D. I. Exec: Tom Jones Agy. (400)

Roanoke, Ala., TWILITE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (300)

Russellville, Ala., KING D. I. Exec: A. L. King. (250)

Samson, Ala., TOP D. I. Exec: Raymond Williams. (180)

Scottsboro, Ala., TAWASENTHA D. I. Exec: Robert D. Word, Ritz Th. (500)

Selma, Ala., SEL-MONT D. I., Montgomery Hwy. Exec: Wilby-Kincey Ths. Ct., 154 Walton St., N.W., Atlanta, Ga. (500)

Shawmut, Ala., HI-WAY D. I. Exec: L. J. Duncan, Al-Dun Amuse. Co., West Point, Ga. (410)

Sylacauga, Ala., COMET D. I., P. O. Box 69. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (350)

Talladega, Ala., BROADWAY D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (275)

Tallassee, Ala., TALA C D. I. Exec: Fred T. McLendon, P. O. Box 289, Union Springs. (400)

Troy, Ala., STARLITE D. I., Hwy. 231, Box 275. Exec: James Gaylord. (300)

Tuscaloosa, Ala., SKYLINE D. I., Box 31B, Rt. 2. Exec: H. J. Cleveland. (300)

Tuscaloosa, Ala., VARSITY D. I. Exec: Louis Worthington. (400)

Tuskegee, Ala., LINCOLN D. I. Exec: John Moffitt, % Carver Th., Montgomery. (250)

Wetumpka, Ala., ENCORE D. I. Exec: W. M. Singleton. (Under Construction)

Florida

(NOTE: See also New Orleans Territory)

Altamonte Springs, Fla., PRAIRIE LAKE D. I. Exec: J. R. Partlow. (685)

Arcadia, Fla., DeSOTA D. I. Exec: George H. West, Jr. (210)

Auburndale, Fla., DALE D. I., P. O. Box 337. Exec: M. E. Hensler. (450)

Auburndale, Fla., TWINKLE STAR D. I. (Colored). Exec: Munsey Smith, D. C. Laird & Assoc., and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (328)

Baldwin, Fla., 90 D. I. Exec: R. E. Totman. (134)

Bartow, Fla., OUTDOOR D. I. Exec: Mrs. J. E. Raulerson, Rt. #5, Box #3, Lakeland. (300)

Belle Glades, Fla., LAKE D. I. (Pahokee). Exec: Gold-Dobrow, % Prince Th., Pahokee. (256)

Blountstown, Fla., BLOUNTSTOWN D. I. Exec: Joe Durham and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

Bonifay, Fla., B AND L D. I. Exec: B. Messer, and S. E. McDaniel, Macks East D. I., Marianna. (200)

Bradenton, Fla., BRADENTON D. I., 2305 - 9th St., W. Exec: Raymond Combs. (219)

Bradenton, Fla., SUBURBAN OPEN AIR D. I. Exec: David R. Brown, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (490)

Brooksville, Fla., 41 D I. Exec: W. Howard Smith, % Dixie Th. (300)

Bushnell, Fla., SUMTER D. I. Exec: Charles T. Rook. (350)

Chattahoochee, Fla., DIXIE D. I. Exec: Spurgeon Dunn Ct., Gibson Th. (180)

Chipley, Fla., STARLITE D. I. Exec: I. Roche, % Vernon Th., Vernon. (150)

Clearwater, Fla., GULF TO BAY D. I. Exec: S. E. Shingler, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (375)

Clearwater, Fla., OUTDOOR D. I., Hwy. 19. Exec: Julia Raulerson, Rt. 5, Box 3, Lakeland. (302)

Clermont, Fla., CLERVIEW D. I. Exec: Hugh Martin, P. O. Box 1656, Columbus, Ga. (250)

Clewiston, Fla., SUGARLAN D. I. Exec: Thomas E. Markette, Home Appliance Co. (350)

Cocoa, Fla., COCOA D. I. (Formerly Merritt Island). Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (270)

Cocoa, Fla., SKYVIEW D. I. (Colored). Exec: S. M. Blackman, and F. L. Stowe, 2828 E. Lakeside Blvd., Jacksonville. (100)

Dade City, Fla., JOY LAND D. I. Exec: Carl Floyd, Florida Th., Haines City. (250)

Dania, Fla., DANIA D. I., Dania Beach Rd., P. O. Box 478. Exec: George Koeliker, George Hertner, Herkel Corp., and Ed Campbell, Tropicaire D. I., Miami. (500)

Daytona Beach, Fla., NEPTUNE D. I. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (504)

Daytona Beach, Fla., VOLUSIA D. I. (Formerly Costal), Deland Rd., 1000 Volusia Ave. Exec: Carl Floyd, Florida Th., Haines City. (375)

Defuniak Springs, Fla., HIWAY 90 D. I., P. O. Box 66. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (110)

Deland, Fla., BOULEVARD D. I., P. O. Box 180. Exec: LeRoy Johnson. (400)

Deland, Fla., DIXIE D. I. Exec: Donald D. Bentley. (260)

Delray Beach, Fla., DELRAY D. I. Exec: Delray D. I. Th. Co., Inc., and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (400)

Dover, Fla., PLANT CITY D. I. Exec: C. C. Blake, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (500)

Eau Gallie, Fla., BREVARD D. I. (Melbourne). Exec: Talgar Ths., Lakeland and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Eustis, Fla., MOVIE GARDEN D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (400)

Fernandina, Fla., DRIVE IN (Formerly Fernandinan). Exec: C. E. Beach, and Mrs. M. Smith, P. O. Box 436, Atlanta Ga. (285)

Fort Lauderdale, Fla., ANDREWS D. I. Exec: Wometco Ths., 306 N. Miami Ave., Miami, Fla. (440)

Fort Lauderdale, Fla., BROWN D. I. (Colored). Exec: Mrs. Roxn Brown, and F. L. Stowe, 2828 Lakeshore Blvd., Jacksonville. (310)

Fort Lauderdale, Fla., HIWAY D. I., R.R. #2, Box 122D. Exec: J. M. Ridilla, and Ed Campbell, Tropicaire D. I., Miami. (700)

Fort Lauderdale, Fla., LAUDERDALE D. I., 2695 W. Broward Blvd. at Wingate Rd. Exec: L. C. Sipe. (500)

Fort Myers, Fla., CITY D. I. Exec: O. Ray Busler. (338)

Fort Myers, Fla., FT. MYERS D. I., P. O. Box 2067. Exec: S. J. Feiger, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (430)

Fort Myers, Fla., STARLITE D. I., Hwy. 80. Exec: M. Solomon, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (350)

Fort Pierce, Fla., DRIVE IN (Formerly Ft. Pierce), P. O. Box 350. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (500)

Gainesville, Fla., GAINSVILLE D. I., 3000 Hawthorne Rd., P. O. Box 286. Exec: L. Side and W. Conn. (375)

Gainesville, Fla., SURBURBIA D. I., Rt. 50. Exec: Shafer Ths., Inc., and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (700)

Graceville, Fla., SPEARS D. I. Exec: E. D. and C. M. Spears, and S. E. McDaniel, Macks East D. I., Marianna. (150)

Grand Ridge, Fla., APALACHEE D. I. Exec: J. A. and Tony Howell, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (175)

Haines City, Fla., LAKE HAINES D. I. Exec: Carl Floyd, Florida Th. (350)

Hallandale, Fla., HALLANDALE D. I., Hwy. 1, P. O. Box 916. Exec: S. Arthur Ashworth, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (500)

Hernando, Fla., CITRUS D. I. Exec: J. D. Wagner. (200)

High Springs, Fla., DRIVE IN. Exec: J. B. Yongue, and Exhibitor Serv. Co., 417 Masonic Bldg., Jacksonville. (250 Under Construction)

Homestead, Fla., BREEZEWAY D. I., Box 1165. Exec: C. B. Chambers. (350)

Indian River City, Fla., RIVERVIEW AUTO D. I. Exec: J. and H. Sission and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (200)

Indian Rocks Beach, Fla., DRIVE IN. Exec: Mrs. S. L. Higginbotham, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (400)

Jacksonville, Fla., ATLANTIC D. I. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (361)

Jacksonville, Fla., LAKE FOREST D. I. Exec: T. E. Bell and B. H. Musleh. (250)

Jacksonville, Fla., MAIN ST. D. I., P. O. Box 3204. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg. (700)

Jacksonville, Fla., MONCRIEF D. I. Exec: National Th. Ent., and Art Rothschild, P. O. Box 4729, Jacksonville. (234)

Jacksonville, Fla., NORMANDY D. I., 5003 Normandy Blvd., P. O. Box 6823. Exec: C. Devers. (1000)

Jacksonville, Fla., OCEANWAY D. I., 3709 Pearl St. Exec: G. H. Brown. (200)

Jacksonville, Fla., PINECREST D. I. Exec: H. G. Vice and Louis Broward. (360)

Jacksonville, Fla., RIBAULT D. I., Box 1027, Rt. 9. Exec: Carl Carter, Ritz Th. (350)

Jacksonville, Fla., SKYVIEW D. I. (Colored), 1887 Kings Rd. Exec: National Th. Ent., and Art Rothschild, P. O. Box 4729. (375)

Jacksonville, Fla., TOWER D. I. Exec: Fred Kent. (Under Construction)

Jacksonville Beach, Fla., BEACH D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (450)

Jasper, Fla., BAR X D. I. Exec: J. R. Biddle, % Fay Th. (188)

Keystone Heights, Fla., LEE'S D. I. (Formerly Community). Exec: William Lee. (100)

Key West, Fla., ISLANDER D. I. Exec: Joseph Sirugo. (650)

Kissimee, Fla., KISSIMMEE D. I. Exec: Michael Dorso, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (400)

Lake City, Fla., LUNAR D. I. Exec: R. E. Cannon, Cannon Th. Co., Live Oak. (300)

Lakeland, Fla., FILMLAND D. I. Exec: Joe Floritta, William Klem, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (500)

Lakeland, Fla., LAKELAND D. I. Exec: Charles W. Murrell. (456)

Lakeland, Fla., SILVERMOON D. I., Hwy. 92, P. O. Box 337. Exec: Carl Floyd, Florida Th., Haines City. (400)

Lake Wales, Fla., WALES D. I. Exec: Leslie Pendleton, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Lake Worth, Fla., DIXIE SKYDOME D. I., 2515 N. Dixie Hwy. Exec: Wometco Ths., 306 N. Miami Ave., Miami. (600)

Leesburg, Fla., CREST D. I. Exec: Hugh Martin, M and M Ths., P. O. Box 1656, Columbus, Ga. (314)

Live Oak, Fla., NOVA D. I. Exec: R. E. Cannon, Cannon Ths. (200)

Lockhart, Fla., RI-MAR D. I. (Orlando). Exec: Martin and Manning, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (400)

Marianna, Fla., MACKS EAST D. I. Exec: S. E. McDaniel. (232)

Marianna, Fla., MACKS WEST D. I. Exec: S. E. McDaniel % Macks East D. I. (250)

Miami, Fla., BOULEVARD D. I. (North Miami), 14311 143rd St. Exec: Wometco Ths., 306 N. Miami Ave. (1000)

Miami, Fla., CORAL WAY D. I. Exec: Ed Melnicker, and Mrs. M. Smith, P. O. Box 436, Atlanta, Ga. (249)

Miami, Fla., LeJEUNE D. I., 1201 N. W. 42nd Ave. Exec: Nate Bernstein, and R. E. Clyman, Dixie Th. (700)

Miami, Fla., LIB-CITY and 22ND AVE. D. I. (Colored and White Respectively), N. W. 22nd Ave. & 69th St. Exec: Leon Task. (350 Cars and 350 Seats for White and same for Colored) (700)

Miami, Fla., MIAMI D. I., 705 N. W. 81st St., P. O. Box 157. Exec: Phil Berler, E. M. Loew Ct., 175 Huntington St., Boston, Mass. (600)

Miami, Fla., TROPICAIRE D. I., 7751 Bird Rd., Rt. 5, Box 1340. Exec: Ed Campbell. (700)

Miami, Fla., 22ND AVENUE D. I. (See LIB-CITY D. I.)

Miami, Fla., 27TH AVENUE D. I., 2780 N. W. 87th St. Exec: Wometco Ths., 306 N. Miami Ave. (650)

Monticello, Fla., PUGS D. I., Hwy. 149. Exec: T. W. Reed and A. J. Gaskin, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

Mulberry, Fla., FRAN-LIN D. I. Exec: ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

New Port Richey, Fla., BREEZEWAY D. I. Exec: A. H. Stevens, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

New Smyrna, Fla., PINECREST D. I. Exec: Jack Kincheloe and Wilbur Farnell, and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (316)

Oakland Park, Fla., STARLIGHT, D. I. Exec: Sol Aragna. (380)

Ocala, Fla., OCALA D. I., Rt. 5, Box 364. Exec: Roy Rogers. (500)

Ocala, Fla., SKYLARK D. I. Exec: W. Howard Smith, % Dixie Th., Brooksville. (400 and 50 Seats)

Okeechobee, Fla., OKEECHOBEE D. I. Exec: R. F. Macks. (102)

Orange Park, Fla., AIR BASE D. I. (Jacksonville). Exec: C. J. Carter, Ritz Th., Jacksonville. (425)

Orlando, Fla., KUHL AVENUE D. I., 2400 S. Kuhl. Exec: J. A. Partlow, % Prairie Lake D. I. Altamonte Springs. (400)

Orlando, Fla., ORLANDO D. I., 1001 S. Orange Blossom Trail, Box 1214. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (298)

Orlando, Fla., PINE HILL D. I. Exec: Carl Floyd, Florida Th., Haines City (650)

Orlando, Fla., WASHINGTON SHORES D. I. (Colored). Exec: Harris and Kimball, and F. L. Stowe, 2828 E. Lakeshore Blvd., Jacksonville. (200)

Palatka, Fla., LINDA D. I. Exec: A. H. Gowthrop, and F. L. Stowe, 2828 E. Lakeshore Blvd., Jacksonville. (400)

Palmetto, Fla., PALMETTO D. I., R.F.D. #1. Exec: Roy Jones. (300)

Panama City, Fla., BUD DAVIS D. I., Box 1016. Exec: Bud Davis. (350)

Panama City, Fla., ISLE OF VIEW D. I. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (300)

Perrine, Fla., DIXIE D. I. (Miami), Rt. 2, P. O. Box 675. Exec: Ed Campbell, Tropicaire D. I., Miami. (450)

Perry, Fla., COMMUNITY OUTDOOR D. I. Exec: Kay Porter, % Temple Th. (200)

Perry, Fla., PERRY D. I. Exec: Leroy Groves, and J. G. Snellgrove, Harlem Th., Moultrie, Ga. (150)

Plant City, Fla., STARLITE D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (290)

Pompano Beach, Fla., POMPANO D. I., P. O. Box 788. Exec: Angelo Monolo, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (400)

Port St. Joe, Fla., ST. JOE D. I. (Formerly Port). Exec: Martin and Davis, J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (250)

Punta Gorda, Fla., CHARLOTTE HARBOR D. I. Exec: S. Rubin, Ernest Mitts, Herman Bluckman, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (300)

Quincy, Fla., HILL D. I. Exec: Nat Williams, Interstate Ents., Thomasville, Ga. (300)

Riviera Beach Fla., PALM BEACH OUTDOOR D. I. (Formerly Beach). Exec: Nate Bernstein, and R. E. Clyman, Dixie Th., Miami. (400)

Saint Augustine, Fla., BEACH D. I., P. O. Box 1491. Exec: George Kaninaris. (550)

Saint Augustine, Fla., SAN MARCO D. I. Exec: John Hart, and W. R. Shafer, % Florida Th., Daytona Beach. (404)

Saint Petersburg, Fla., 4th STREET D. I., 4th St. and 72nd Ave. Exec: Florida State Ths., Florida Th. Bldg., Jacksonville. (400)

Saint Petersburg, Fla., GARDEN D. I., Tyrone and Park. Exec: James C. Menson. (325)

Saint Petersburg, Fla., GULF WIND D. I., 6688 Gulf Blvd. Exec: J. J. Donnelly. (122)

Saint Petersburg, Fla., SKYVUE D. I. Exec: K. T. Barfield. (600)

Saint Petersburg, Fla., 28th STREET D. I. Exec: Pete Sones, San Wilson, and Carl Floyd, Florida Th., Haines City. (600)

Sanford, Fla., MOVIELAND D. I., P. O. Box 70. Exec: C. R. Shirard and Dr. Brantley. (440)

Sarasota, Fla., SIESTA D. I. (Formerly Southern Trail). Exec: Hugh Thomas, Waller and Thomas Amuse., Trail D. I. (400)

Sarasota, Fla., TRAIL D. I., N. Tamiami Trail. Exec: Hugh Thomas, Waller and Thomas Amuse. (610)

Sebring, Fla., SEVON D. I. Exec: Carl Floyd, Florida Th., Haines City. (300)

South Daytona Beach, Fla., #1 D. I. Exec: Mrs. B. Bow, P. O. Box 548. (651)

Starke, Fla., BLANDINGS D. I. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (300)

Stuart, Fla., DRIVE IN (Formerly Dixie). Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (290)

Tallahassee, Fla., CAPITOL D. I., Apalachicola Hwy. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (348)

Tallahassee, Fla., OUTDOOR D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (480)

Tampa, Fla., AUTO PARK D. I., 3600 22nd St., Causeway Blvd., Rt. 3, Box 1079. Exec: L. E. Britton. (500)

Tampa, Fla., BUFFALO D. I. (Colored). Exec: Dale Elleman, 2214 E. Ellicott St. (300)

Tampa, Fla., DALE MABRY D. I., Dale Mabry Hwy., and Gandy Blvd. Exec: Pete Sones, Sam Wilson, and Carl Floyd, Florida Th., Haines City. (700)

Tampa, Fla., DRIVE IN (Formerly Hillsboro), W. Hillsboro and Lincoln Rd. Exec: Florida State Ths., Florida Th. Bldg., Jacksonville. (650)

Tampa, Fla., FLORILAND D. I. Exec: H. Hamner, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (300)

Tampa, Fla., 40th ST. D. I. Exec: M. J. Carlstein, Jr. (600)

Tampa, Fla., FUN LAN D. I., 22nd St. and E. Hillsboro. Exec: Pete Sones, Sam Wilson, and Carl Floyd, Florida Th., Haines City. (650)

Tampa, Fla., SKYWAY D. I., 11805 N. Florida Ave., P. O. Box 1095. Exec: J. S. Carscallen. (360)

Tampa, Fla., SUNDOWN D. I. Exec: B. N. Pooly, J. B. Shipley, and R. E. Morales, 1210 E. Powhatten Ave. (400)

Tampa, Fla., TOWER D. I. Exec: Tower Amuse. Co., and Exhibitors Serv. Co., 417 Masonic Bldg., Jacksonville. (600)

Tampa, Fla., 20th CENTURY D. I. Exec: Jim Poindexter, C. H. Mosley, and R. E. Morales, 1210 E. Powhatten Ave. (500 and 300 Seats)

Tarpon Springs, Fla., MIDWAY D. I. Exec: Carl Floyd, Florida Th., Haines City. (535)

Vero Beach, Fla., DRIVE IN (Formerly Vero Beach). Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (270)

Wauchula, Fla., STAR-LITE D. I., Route 17. Exec: Carl Floyd, Florida Th., Haines City. (250)

West Hollywood, Fla., WEST HOLLYWOOD D. I. Exec: Frank Krickler. (250)

West Palm Beach, Fla., BOULEVARD D. I., S. Blvd. and Haverhill Rd. Exec: Clyde N. Hall. (400)

Wintergarden, Fla., STARLITE D. I. Exec: C. M. Biggers, and F. L. Stowe, 2828 E. Lakeshore Blvd., Jacksonville. (250)

Winter Haven, Fla., OUTDOOR D. I., Hwy. 17, Box 784. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Winter Park, Fla., WINTER PARK D. I. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta, Ga. (700)

Georgia

Acworth, Ga., LAKES D. I. Exec: Cecil Hudson. (Under Construction)

Adel, Ga., ADEL AUTO D. I. Exec: J. G. Snellgrove, Harlem Th., Moultrie. (175)

Albany, Ga., CAPITOL D. I. Exec: Lowell T. Sheffield. (193)

Albany, Ga., GEORGIA D. I. Exec: Adolph Gortatowsky. (419)

Albany, Ga., SLAPPY D. I. Exec: Lowell T. Sheffield. (366)

Alma, Ga., FAMILY D. I. Exec: Stein Ths. Co., 211 E. Forsyth St., Jacksonville, Fla. (250)

Americus, Ga., SUNSET D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Ashburn, Ga., JOY AUTO D. I., P. O. Box 251. Exec: Jack J. Parrish, and J. G. Snellgrove, Harlem Th., Moultrie. (146)

Athens, Ga., ALPS ROAD D. I. Exec: H. P. Rhodes. (300)

Athens, Ga., ATHENS D. I., Atlanta Hwy. Exec: Wilby-Kincey Ct., 154 Walton St., N. W., Atlanta. (300)

Atlanta, Ga., BANKHEAD D. I., Bankhead Hwy. S. W. Exec: Georgia Th. Ct., Fox Th. Bldg. (650)

Atlanta, Ga., PEACHTREE D. I. (Chamblee). Exec: Storey Th. (525)

Atlanta, Ga., PIEDMONT D. I., 2426 Piedmont Rd. N. E. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg. (650)

Atlanta, Ga., STARLITE D. I., 2000 Moreland Ave. Exec: F. C. Coleman, Enstpoint Amuse. Co., Eastpoint. (900)

Atlanta, Ga., STEWART D. I., 2685 Stewart Ave. S. W. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg. (650)

Augusta, Ga., AUGUSTA D. I., P. O. Box 56, Sandbar Ferry Rd. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg., Atlanta. (315)

Augusta, Ga., CLOVER LEAF D. I. Exec: Georgia Ths. Ct., Box Th. Bldg., Atlanta. (750)

Augusta, Ga., FOREST HILLS D. I. Exec: Donald Boardman. (650)

Augusta, Ga., HILLTOP D. I. Exec: Tom A. Little, % Consolidated Ths., Charlotte, N. C. (640)

Augusta, Ga., No. 1 D. I. Exec: Russ Saunders, Theatre Booking Serv., Charlotte, N. C. (300)

Augusta, Ga., SKYVIEW D. I., Olive Rd. Exec: Donald Boardman. (650)

Bainbridge, Ga., AZALEA D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Blakely, Ga., PETERS D. I. Exec: Mrs. J. E. Peters. (250)

Brunswick, Ga., STARLIGHT D. I., Glynn Ave., P. O. Box 521. Exec: Ed Diemmer. (325)

Brunswick, Ga., SUNSET D. I., Jacksonville Hwy., Arco, Box 7. Exec: S. O. Jenkins. (400)

Cairo, Ga., CAIRO D. I. Exec: Spurgeon Dunn Ct., Gibson Th., Chattahoochee, Fla. (342)

Calhoun, Ga., BEL-AIR D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Camilla, Ga., DUNN D. I. Exec: R. H. Dunn. (290)

Canton, Ga., HOWELL'S D. I., Route 4. Exec: Irene Howell. (300)

Canton, Ga., M AND T D. I. (Formerly Canton). Exec: Martin & Thompson Ths. (350)

Carrollton, Ga., DRIVE IN. Exec: J. E. Duncan. (300)

Cartersville, Ga., STARLITE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (305)

Cedartown, Ga., HIWAY 6 D. I. Exec: Joe Sturgis. (300)

Claxton, Ga., CLAXTON D. I. Exec: S. G. Tos, Tos Ths. (175)

Cochran, Ga., P AND Z D. I. Exec: George M. Ziter. (250)

College Park, Ga., ROOSEVELT D. I. (Atlanta), R.F.D. #3, Box 298. Exec: F. C. Coleman, East Point Amuse., East Point. (500)

Columbus, Ga., COLUMBUS D. I., 1112 45th St. Exec: Wilby-Kincey Ct., 154 Walton St., N. W., Atlanta. (700)

Columbus, Ga., EDGEWOOD D. I. Exec: Martin Ths. Ct., P. O. Box 471. (676)

Columbus, Ga., JET D. I. (Colored). Exec: Martin Th. Ct., P. O. Box 471. (150)

Columbus, Ga., MORRIS ROAD D. I. Exec: Russ Saunders and J. N. Wallace. (300)

Columbus, Ga., REXVIEW D. I., 1112 45th. Exec: Martin Ths. Ct., P. O. Box 471. (450)

Columbus, Ga., VICTORY D. I., P. O. Box 1305. Exec: H. P. Rhodes, 2450 Peachtree Rd., Atlanta, and I. Shields. (300)

Cordele, Ga., DRIVE IN (Formerly Cordele). P. O. Box 143. Exec: Earl Murray and Ray Tyner. (145)

Covington, Ga., HUB D. I., Mansfield Hwy. Exec: Mrs. M. Osman. (325)

Dalton, Ga., CHEROKEE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (440)

Decatur, Ga., SCOTT D. I., Scott Blvd. and Lawrence Rd. Exec: Fred Story, 10th St. Th., Atlanta. (535)

Donaldsonville, Ga., PALM D. I. Exec: Ellison Dunn. (250)

Douglas, Ga., SKYVUE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (150)

Dublin, Ga., DUBLIN D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (250)

Dublin, Ga., ROCKDALE D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (375)

Eastman, Ga., EASTMAN D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (250)

Elberton, Ga., ELBERTON D. I. Exec: Georgia Th. Ct., Fox Th. Bldg., Atlanta. (500)

Fayetteville, Ga., HIGHWAY 85 D. I. Exec: G. E. Duffy. (200)

Fitzgerald, Ga., FITZGERALD D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (150)

Fitzgerald, Ga., SKYWAY D. I. Exec: Mrs. Margaret Brown. (200)

Forest Park, Ga., FOREST PARK D. I. Exec: Georgia Th. Ct., Fox Th. Bldg., Atlanta. (350)

Forsyth, Ga., MIDWAY D. I. Exec: Renfro Watson. (200)

Fort Valley, Ga., COLLEGE D. I. Exec: Lee Hancock and Greer Grace. (300)

Fort Valley, Ga., No. 7 D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (200)

Gainesville, Ga., SKYVIEW D. I., Hwy. 19, P. O. Box 142. Exec: John Thompson. (406)

Greensboro, Ga., GREENPOINT D. I. Exec: W. R. Boswell. (400)

Griffin, Ga., IRIS D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Hawkinsville, Ga., M AND T D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (280)

Hazelhurst, Ga., TRAIL D. I., Lumber City Hwy. Exec: Stein Ths., 211 E. Forsyth St., Jacksonville, Fla. (200)

Hinesville, Ga., STEWART D. I. Exec: E. M. Brice, Pal Amuse. Co., Vidalia. (407)

Jessup, Ga., FAMILY D. I. Exec: W. P. Riggins. (300)

LaGrange, Ga., LaGRANGE D. I., Hwy. 29. Exec: O. C. Lam, Lam Amuse., Rome. (500)

Lithia Springs, Ga., LITHIA SPRINGS D. I. Exec: Georgia Ths. Ct., Fox Th. Bldg., Atlanta. (225)

Lithonia, Ga., HIGHWAY 12 D. I. Exec: Storey Th. Co., Atlanta. (400)

Louisville, Ga., REBEL D. I. Exec: E. M. Brice, Pal Amuse. Co., Vidalia. (344)

Macon, Ga., DIXIE D. I., 2320 Old Jefferson Rd., P. O. Box 397. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg., Atlanta. (327)

Macon, Ga., 41 HIWAY D. I. Exec: Georgia Th. Ct., Fox Th. Bldg., Atlanta. (700)

Macon, Ga., HOUSTON D. I. Exec: Russ Saunders (300)

Macon, Ga., MOTOR VUE D. I. Exec: Tom Lucy, Exhibitor Serv. Co., Walton Bldg., Atlanta. (275)

Macon, Ga., STARLITE D. I., Old Columbus Rd. Exec: John Jarvis, 164 Walton St., Atlanta. (300)

Manchester, Ga., CIRCLE D. I. (Formerly Manchester). Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Marietta, Ga., FAIR OAKS D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (425)

Marietta, Ga., MARTIN D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (425)

McCaysville, Ga., TWIN CITY D. I. Exec: J. W. Baird, Newport Amuse. Co., Newport, Tenn. (350)

McRae, Ga., M AND T D. I. Exec: Martin and Thompson Ct., Columbus. (300)

McRae, Ga., McRAE D. I. Exec: C. A. Williams. (650)

Metter, Ga., CANDLER D. I. Exec: N. L. Stephens. (300)

Milledgeville, Ga., CADET D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Millen, Ga., JENKINS D. I. Exec: E. M. Brice, Pal Amuse Co., Vidalia. (300)

Millen, Ga., MOONLIGHT D. I. Exec: N. L. Stephens. (200)

Montezuma, Ga., JEM D. I. Exec: J. E. Martin. (309)

Moultrie, Ga., MOULTRIE D. I. Exec: Georgia Th. Ct., Fox Th. Bldg., Atlanta. (300)

Nashville, Ga., MIDWAY D. I. Exec: Stein Ths., 211 E. Forsyth St., Jacksonville, Fla. (200)

Newman, Ga., NEWMAN D. I. Exec: O. C. Lam, Lam Amuse., Rome. (400)

Pelham, Ga., PIKE D. I. Exec: Nat Williams. (275)

Quitman, Ga., DRIVE IN (Formerly Quitman). Exec: J. G. Snellgrove, Harlem Th., Moultrie. (150)

Rome, Ga., CEDAR VALLEY D. I., Hwy. 27 and Cave Spring Rd. Exec: O. C. Lam, Lam Amuse. (700)

Rome, Ga., WEST ROME D. I. Exec: O. C. Lam, Lam Amuse. (500)

Rossville, Ga., STARLITE D. I. Exec: I. J. Sadow. (300)

Sandersville, Ga., TWIN D. I. Exec: G. B. McKenzie. (200)

Savannah, Ga., CIRCLE D. I. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (250)

Savannah, Ga., HIWAY 80 D. I., P. O. Box 1455. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (700)

Savannah, Ga., HIGHWAY 21 D. I. Exec: Gus Hayes. (200)

Savannah, Ga., MONTGOMERY D. I. Exec: Mel Brown. (500)

Savannah, Ga., PALM D. I. Exec: E. L. Bost and J. W. Hill. (300)

Savannah, Ga., VICTORY D. I. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (234)

Springfield, Ga., SKYVIEW D. I. Exec: N. L. Stephens. (200)

Statesboro, Ga., FAMILY AUTO D. I. Exec: Hal Macon. (233)

Summerville, Ga., PENN D. I. Exec: J. S. Tankersley, Ellijay Th., Ellijay. (300)

Swainsboro, Ga., DIXIE D. I. Exec: W. H. Kahrr, Dixie Amuse. Co. (214)

Swainsboro, Ga., 56 D. I. Exec: N. L. Stephens. (206)

Sylvania, Ga., SCREVEN D. I. Exec: N. L. Stephens. (200)

Sylvania, Ga., SKYVIEW D. I., Hwy. 301. Exec: N. L. Stephens. (170)

Sylvester, Ga., DRIVE IN (Formerly Sylvester). Exec: R. T. Moody. (90)

Sylvester, Ga., NEW D. I. Exec: Stein Ths. Co., 211 E. Forsyth St., Jacksonville, Fla. (200 Under Construction)

Tallapoosa, Ga., STARDUST D. I. Exec: W. W. Fincher. (198)

Thomaston, Ga., STARLITE D. I. Exec: O. E. Hudgins. (200)

Thomasville, Ga., HIWAY D. I., Thomasville-Tallahassee Hwy. Exec: Nat Williams, Interstate Ents. (372)

Thomson, Ga., MELODY D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (366)

Tifton, Ga., PINES D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Tiger, Ga., TIGER D. I. Exec: Claude Cannon. (200)

Toccoa, Ga., TOCCOA D. I. Exec: W. M. Sneilson. (300)

Trion, Ga., MOONLITE D. I. Exec: S. Harris. (278)

Valdosta, Ga., FORREST D. I., Box 674. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Valdosta, Ga., MARTIN D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Valdosta, Ga., SKYWAY D. I. Exec: Mrs. M. Brown. (250)

Vidalia, Ga., PETES D. I., Lyon Rd., Box 462. Exec: E. M. Brice, Pal Amuse. Co. (389)

Warner Robbins, Ga., M and T D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (300)

Washington, Ga., MARTIN D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus. (220)

Waycross, Ga., U. S. #1 D. I. Exec: Georgia Th. Co., Fox Th. Bldg., Atlanta. (500)

Waycross, Ga., WAYCROSS D. I. Exec: Georgia Th. Co., Fox Th. Bldg., Atlanta. (200)

Waynesboro, Ga., WAYNESBORO D. I. Exec: L. N. Bailey. (100)

Woodbury, Ga., WOODBURY D. I. Exec: W. E. Blue. (100)

North Carolina

(NOTE: See also Charlotte Territory)

Franklin, N. C., FRANKLIN D. I. Exec: R. N. Morris. (200)

Tennessee

(NOTE: See also Memphis Territory)

Ardmore, Tenn., STARLITE D. I. (Formerly Ardmore). Exec: A. C. Austin. (175)

Athens, Tenn., STARLITE D. I., Box 297. Exec: J. H. Owens. (200)

Bluff City, Tenn., TWIN CITY D. I. Exec: Harvey Diggs. (450)

Bristol, Tenn., BEACON D. I. Exec: Harvey Diggs and T. D. Field. (400)

Chattanooga, Tenn., BROAD ST. D. I. Exec: Abe Solomon, Independent Ths., 509 Cherry St. (500)

Chattanooga, Tenn., 41 D. I. Exec: W. W. Fincher. (400)

Chattanooga, Tenn., 50 D. I. Exec: W. W. Fincher. (500)

Chattanooga, Tenn., 58th ST. D. I. Exec: W. W. Fincher. (400)

Chattanooga, Tenn., LOOKOUT MT. D. I., 4914 Rossville Ave. Exec: J. Sndow. (300)

Chattanooga, Tenn., RED BANK D. I. Exec: Abe Solomon, Independent Ths., 509 Cherry St. (500)

Chattanooga, Tenn., SKYWAY D. I., 5500 Brainerd Rd. Exec: Abe Solomon, Independent Ths., 509 Cherry St. (400)

Chattanooga, Tenn., 23rd ST. D. I. Exec: W. W. Fincher. (300)

Clarksville, Tenn., MOONLIGHT D. I. Route 4. Exec: H. L. McKinney. (450)

Clarksville, Tenn., SUNSET D. I., P. O. Box 691. Exec: Crescent Amuse. Co., 5th Ave. N., Nashville. (400)

Cleveland, Tenn., CLEVELAND D. I., Harrison Rd. Exec: G. B. Odlum. (400)

Cleveland, Tenn., STARVUE D. I. Exec: Cletus Benton. (400)

Clinton, Tenn., COLE D. I. Exec: Cole Bros. (350)

Columbia, Tenn., DAN DEE D. I. Exec: Al Allen. (450)

Columbia, Tenn., SUNDOWN D. I. Exec: S. S. Fleming and Sidney Johnston. (550)

Cookeville, Tenn., PUTNAM D. I. (Formerly Young's), Hwy. 70. Exec: S. W. Whilhite. (200)

Crossville, Tenn., STARLITE D. I., P. O. Box 105. Exec: C. B. Webb. (250)

Dayton, Tenn., RHEA D. I., Route 2. Exec: C. Goins. (300)

Dunlay, Tenn., DRIVE IN. Exec: Charles Bryant. (Under Construction)

Elizabethton, Tenn., STATELINE D. I., P. O. Box 527. Exec: Earl B. Bolling, and Tom Jones, Agy. (230)

Erwin, Tenn., HOLIDAY D. I. Exec: Earle and Joe Hendren. (500)

Estill Springs, Tenn., LAKEVIEW D. I. Exec: Cowan Oldham, Cumberland Amuse. Co., McMinnville. (200)

Etowah, Tenn., ETOWAH D. I. Exec: Martin Ths. Ct., P. O. Box 471, Columbus, Ga. (300)

Fayetteville, Tenn., HIWAY 64 D. I. Exec: Otis Couch, Couch and Richardson. (300)

Fountain City, Tenn., SKYWAY D. I., 6222 Broadway. Exec: R. J. Barnes. (450)

Gallatin, Tenn., SUMNER D. I. Exec: Frank Tinnon. (300)

Gleanmary, Tenn., MORGAN D. I. Exec: Walter J. Marlow. (100)

Greenville, Tenn., ASHWAY D. I. Exec: E. L. Wilson. (300)

Greenville, Tenn., NITE AUTO MOVIE D. I. Exec: Ernest W. Knight. (250)

Harriman, Tenn., ROANE D. I. Exec: James Clark. (300)

Jamestown, Tenn., TWILIGHT D. I. Exec: Porter Hines. (230)

Jefferson City, Tenn., CHEROKEE D. I. Exec: J. W. Smith and C. T. Davis. (200)

Johnson City, Tenn., 11 E FAMILY D. I. Exec: J. W. Baird, Newport Amuse. Co., Newport. (400)

Johnson City, Tenn., KINGS SPRINGS D. I. Exec: Bernie Wylie. (50)

Johnson City, Tenn., TRI-CITIES D. I., Johnson City-Bristol Hwy. Exec: Bernie Wylie. (300)

Johnson City, Tenn., TWIN CITY D. I., Johnson City-Elizabethtown Hwy. Exec: Bernie Wylie. (300)

Kingsport, Tenn., BAYS MT. D. I., Route 5. Exec: J. R. Pierce. (200)

Kingsport, Tenn., KINGSPORT D. I. Exec: Russ Saunders. (300)

Kingsport, Tenn., TRIANGLE D. I. Exec: J. R. Pierce. (400)

Knoxville, Tenn., CHAPMAN HIWAY D. I. Exec: R. S. Spurgeon. (250)

Knoxville, Tenn., FAMILY D. I., 3546 Kingston Pike, Box 686. Exec: R. J. Barnes. (511)

Knoxville, Tenn., HORNE D. I. Exec: O. G. Ronden. (400)

Knoxville, Tenn., KNOXVILLE D. I., P. O. Box 686. Exec: R. J. Barnes. (110)

Knoxville, Tenn., RIVER BREEZE D. I. Exec: Ben Maloy. (300)

Knoxville, Tenn., STARLITE D. I., 810 N Central Ave. Exec: Tim Smith. (400)

Knoxville, Tenn., SUNSET D. I. Exec: L. W. and G. L. Howard. (1400)

LaFollette, Tenn., SKYWAY D. I. Exec: W. R. Holder, Cherokee Amuse. Co. (300)

Lawrenceburg, Tenn., LAWCO D. I. Exec: Lewis Rhulander. (300)

Lenoir City, Tenn., DIXIE LEE D. I., Dixie Lee Junction. Exec: Mose L. Waller, Jr. and Exhibitor Serv. Co., 189 Walton St., Atlanta, Ga. (300)

Lewisburg, Tenn., HIWAY 50 D. I. Exec: T. Boyd, Lewisburg Th. Co. (350)

Livingston, Tenn., SKYLINE D. I. Exec: E. K. Stephens. (225)

Loudon, Tenn., COLE D. I. Exec: W. H. and J. J. Cole. (200)

Madison, Tenn., MONTOGUE D. I. (Nashville). Exec: Charles H. Kuertz. (600)

Madisonville, Tenn., MADISON D. I. Exec: Gault Brown, Jr. (250)

Maryville, Tenn., DRUID HILLS D. I. Exec: J. C. Gillespie. (500)

Maryville, Tenn., LAKEMENT D. I. (Alcon). Hwy. 129, Box 183. Exec: Juanita Pemberton. (425)

Maryville, Tenn., PARKWAY D. I. Exec: Howard Brooks. (350)

Mascot, Tenn., COMMUNITY D. I. (Knoxville). Exec: W. R. Holder, Cherokee Amuse. Co., LaFollette. (200)

McMinnville, Tenn., BEN LOMAND D. I. Manchester Hwy. Exec: Lee Parham. (400)

Monteagle, Tenn., MONTEAGLE D. I. Exec: A. E. Rook Agy., Atlanta, Ga. (306)

Morristown, Tenn., KING RIDGE D. I. Exec: B. Meisman. (288)

Morristown, Tenn., SKYLINE D. I. (Formerly Skyway). Exec: D. G. Baker. (325)

Murfreesboro, Tenn., 4-LANE D. I. Exec: W. D. Hamaker. (225)

Murfreesboro, Tenn., STARLITE D. I., P. O. Box 583. Exec: W. D. Hamaker. (150)

Nashville, Tenn., BORDEAU D. I. Exec: Crescent Amuse. Co., 5th Ave. N. (425)

Nashville, Tenn., COLONIAL D. I. Exec: Colonial Outdoor Ths. (600)

Nashville, Tenn., CRESCENT D. I., Murfreesboro Pike. Exec: Crescent Amuse. Co., 5th Ave. N. (710)

Nashville, Tenn., SKYWAY D. I. Exec: Crescent Amuse. Co., 5th Ave. N. (600)

Newport, Tenn., NEWPORT D. I. Exec: W. R. Holder, Newport Amuse. Co., Nashville. (200)

Oak Ridge, Tenn., BURCHFIELD D. I. Exec: Ed Burchfield. (400)

Oak Ridge, Tenn., ELZA D. I. Exec: W. J. Hatfield. (270)

Oak Ridge, Tenn., SKYWAY D. I., Oak Ridge Turn Pike, P. O. Box 421. Exec: W. J. Hatfield. (300)

Oneida, Tenn., SKYWAY D. I. Exec: Cherokee Amuse., 5th Ave. N., Nashville. (200)

Pulaski, Tenn., MOONGLO D. I. Exec: David E. Cheatham. (375)

Rockwood, Tenn., RUBY D. I. Exec: Ruby Davis. (200)

Rogersville, Tenn., HILAND D. I. Exec: H. Cecil Acuff. (200)

Sevierville, Tenn., MIDWAY D. I. Exec: C. L. Wilson. (250)

Shelbyville, Tenn., 41 D. I. Exec: J. M. Tune. (315)

Sparta, Tenn., SPARTA D. I. Exec: Cowan Oldham, Cumberland Amuse. Co., McMinnville. (200)

Springfield, Tenn., MOONLIGHT D. I. Exec: R. L. Parham. (250)

Sweetwater, Tenn., SKYLARK D. I. Exec: Gay Amuse. Co. (200)

Tullahoma, Tenn., ARNOLD D. I. Exec: Lee Parham. (500)

Tullahoma, Tenn., PLAZA D. I. Exec: W. Hamaker. (280)

Woodbury, Tenn., SKYLARK D. I. Exec: N. B. Hancock. (85)

Whitwell, Tenn., CROSSROADS D. I. Exec: Reeves and Clay. (200)

Winchester, Tenn., FAMILY D. I. Exec: Cowan Oldham, Cumberland Amuse. Co., McMinnville. (250)

BOSTON TERRITORY

Connecticut

(NOTE: See also New Haven Territory)

Quinebaug, Conn., DRIVE IN. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (415)

Maine

Augusta, Me., AUGUSTA D. I. (Manchester). Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (900)

Bangor, Me., BANGOR D. I. Exec: Graphic Ct., 351 Newbury St., Boston, Mass. (900)

Bangor, Me., BREWER D. I. Exec: E. M. Loew Ct., 175 Huntington St., Bston, Mass. (800)

Brunswick, Me., BRUNSWICK D. I., U. S. Route 1, East Brunswick. Exec: W. C. Gould, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (450)

Brunswick, Me., DRIVE IN. Exec: Al Laurie. (300)

Caribou, Me., POLARIS D. I. Exec: M. Christy. (500)

Cornish, Me., CORNISH D. I. Exec: Russell Martin, and Herbert F. Higgins, Statler Bldg., Boston, Mass. (—)

Danville, Me., DANVILLE D. I. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Theatre Ent., 260 Tremont St., Boston, Mass. (450)

Houlton, Me., BORDERLINE D. I., U. S. Rt. 1. Exec: Lewis Webber and Hy Young Ent., 68 Cliffmont St., Roslindale, Mass. (450)

Kennebunk, Me., KENNEBUNK D. I. Exec: Mrs. Katherine Avery and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (360)

Kittery, Me., YORK D. I. Exec: Mike Nadeau, Ray Wentworth and Daytz Theatre Ent., 260 Tremont St., Boston. Mass. (400)

Lewiston, Me., LEWISTON D. I., Box 1176. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston. Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (1000)

Lisbon, Me., LISBON D. I. (Lewiston). Lisbon Rd. Exec: Royal and John Boldue, Colebrook, N. H., and Joseph Cohen. (500)

Madawaska, Me., MADAWASKA D. I. Exec: E. Micheaud, and Herbert Higgins, Statler Bldg., Boston. Mass. (300)

Milo, Me.. MILO D. I. Exec: Ella Mills and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (450)

North Windham, Me, WINDHAM D. I., Route 302. Exec: James E. Speirs. (450)

Presque Island. Me., PRESQUE ISLAND D. I. Exec: Charles Brooks and Hy Young, 68 Cliffmont St., Roslindale, Mass. (350)

Rockland, Me., DRIVE IN. Exec: Graphic Ct., 351 Newberry St., Boston. Mass. (453)

Rumford, Me., RUMFORD D. I. Exec: E. Pollard. (400)

Saco, Me., SACO AUTO D. I., Rt. 1, Portland Rd. Exec: A. C. O'Neill, and Herbert Higgins, Statler Bldg., Boston, Mass. (300)

Sanford, Me., SANFORD D. I. Exec: Russell Martin, 4 School St., Ogunquit, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (400)

Scarboro, Me., PORTLAND D. I., P. O. Box 7. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (950)

Van Buren, Me., VAN BUREN D. I. Exec: Mrs. Lillian Keegan, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (350)

Westbrook, Me., PRIDES D. I. Exec: Avadis and John Tevanian. (500)

West Enfield, Me., WEST ENFIELD D. I. Exec: Sam Myer, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (250)

Winslow, Me., WINSLOW D. I. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass.. and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (500)

Yarmouth, Me., YARMOUTH D. I. Exec: Saul Hayes and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (200)

Massachusetts

Adams, Mass., HOOSAC D. I. Exec: Morse and Rothenberg Ct., 393 Boylston St., Boston and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Avon, Mass., AVON D. I., Memorial Drive. Exec: Interstate Th. Corp., 260 Tremont St., Boston. (800)

Bellingham, Mass., BELLINGHAM D. I., Pulaski Blvd. Exec: Richter and Sperling, and Affiliated Ths. Corp.. 31 St. James Ave., Boston. (200)

Billerica, Mass., PINEHURST D. I. (Boston). Exec: James Sheeran. (500)

Boxboro, Mass., DRIVE IN. Exec: Louis Fierra and Daytz Th. Ent., 260 Tremont St., Boston. (—)

Braintree, Mass., QUINTREE D. I., 444 Quincy Ave. Exec: Herman Rifkin Ths., 39 Church St., Boston. (500)

Brockton, Mass , SKY VIEW D. I. Exec: Herman Rifkin Ths., 39 Church St., Boston. (736)

Cambridge, Mass., FRESH POND D. I. Exec: George McLaughlin, and Affiliated Ths. Corp , 31 St. James Ave., Boston. (1030)

Chicopee Falls, Mass.. AIRLINE D. I. Exec: M. Walas and Daytz Th. Ent., 260 Tremont St., Boston. (1000)

Dartmouth, Mass., DARTMOUTH D. I., Rt. 6, Cross Rd. Exec: N. Yamins Ths., Providence, R. I., and Daytz Th. Ent., 260 Tremont St., Boston. (600)

Dedham, Mass., DEDHAM D. I., Rt. 1, Elm St. Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (1000)

Dennis, Mass., DENNIS D. I. Exec: Interstate Ths. Corp., 260 Tremont St., Boston. (600)

Fairhaven, Mass., FAIRHAVEN D. I., Rt. 6. Exec: Nathan Yamins Ths., Providence, R. I., and E. M. Loew Ths., Boston. (800)

Gardner, Mass., MOHAWK D. I. Exec: Joseph Schwartz, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (500)

Hadley, Mass., DRIVE IN. Exec: A. Woicekuski and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Haverhill, Mass., RIVERSIDE D. I., 901 River Rd. Exec: A. Arakelian. (400)

Kingston, Mass., PLYMOUTH D. I. Plymouth Hwy. Exec: E. M. Loew Ct.. 175 Huntington St., Boston, and Lawrence Laskey. (625)

Lanesboro, Mass., SUNSET D. I., Route 7. Exec: A. Cloutier. (300)

Lowell, Mass., LOWELL D. I., 94 Fowler Rd. Exec: Dick Edwards. (300)

Lunenberg, Mass., WHALOM D. I., Electric Ave. Exec: Silvio Williams. (400)

Lynn, Mass., LYNN OPEN AIR D. I., Route 1A. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (500)

Medford, Mass., MEADOW GLEN D. I., 3850 Mystic Valley Parkway. Exec: Frank Longo, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (1000)

Methuen, Mass., MERRIMACK PARK D. I. Merrimack Prk Dr., Lowell Blvd. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (325)

Natick, Mass., NATICK D. I. Exec: Phil Smith Th. Ent., 82 Newberry St., Boston. (1000)

Neponset, Mass., NEPONSET D. I. (Dorchester). Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (1350)

Northfield, Mass., AUTO D. I. Exec: C. Nilman, Shelburne Falls. (300)

North Reading Mass., READING D. I. Exec: American Th. Corp., 246 Washington St., Boston. (1000)

North Wilbraham, Mass., PARKWAY D. I., Boston Rd. Exec: M. R. Zio and Daytz Th. Ent., 260 Tremont St., Boston. (998)

Orange, Mass., PIONEER VALLEY D. I. (Boston). Exec: O. Whitney, and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Palmer, Mass., MET AIR PORT D. I. Exec: L. Meceli, and Daytz Th. Ent., 260 Tremont St., Boston. (300)

Plainville, Mass., PLAINVILLE D. I., Kelly Blvd. Exec: Henry Neveaux, R.F.D. Box 218, North Attleboro. (—)

Raynham, Mass., DRIVE IN, Route 128. Exec: C. Murby, and Herbert Higgins, Statler Bldg., Boston. (600)

Revere, Mass., REVERE D. I., Squire Rd. Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Salisbury, Mass., SALISBURY D. I., Beach Rd. Exec: Al Rudenstein. (500)

Saugus, Mass., SAUGUS D. I.. Route 1. Exec: American Ths. Corp., 646 Washington St., Boston. (400)

Seekonk, Mass., BAY STATE D. I., Route 6. Exec: Daytz Th. Ent., 260 Tremont St., Boston, and Herbert Higgins, Statler Bldg., Boston. (500)

Shelbourne Falls, Mass., COMMUNITY D. I. Exec: C. Nilman. (300)

Shrewsbury, Mass., OPEN AIR D. I., Route 9. Exec: American Ths. Corp., 646 Washington St., Boston. (550)

Somerset, Mass., SOMERSET FAMILY D. I., Brayton Pt. Rd. Exec: Maurice Safner, Joseph L. Schwartz, Theodore Rosenblatt, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (560)

Southampton, Mass., SOUTHAMPTON D. I. Exec: A. Yamilkowski, and Herbert Higgins, Statler Bldg., Boston. (400)

South Attleboro, Mass., BORO D. I. Exec: Joe Stanzler. (875)

South Deerfield, Mass., VALLEY VIEW D. I., Rt. 116, Conway Rd. Exec: Edw. J. King, 52 Grinnell St., Greenfield. (250)

Springfield, Mass., ROUND HILL D. I., 101 Plainfield St. Exec: Joseph E. Levine and Daytz Th. Ent., 260 Tremont St., Boston. (750)

Sturbridge, Mass., DOLLY D. I. Exec: Peter J. Manone and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Sutton, Mass., MOTOR-IN, Providence Rd. Exec: Wilfred Bernard, Millbury, and Herbert Higgins, Statler Bldg., Boston. (500)

Turners Falls, Mass., PARK VILLA D. I. Exec: Frank Kuzmeskus, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (350)

Tyngsboro, Mass., TYNGSBORO D. I. Exec: George Abdallah, 203 Branch St., Lowell. (300)

Uxbridge, Mass., QUAKER D. I. Exec: N. Eisner, and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Wareham, Mass, WAREHAM D. I. Exec: Herman Rifkin Ths., 39 Church St., Boston. (500)

West Boylston, Mass., WORCESTER D. I. (Worcester). Exec: E. M. Loew Ct., 175 Huntington St., Boston. (1600)

Westfield, Mass., SUNDOWN AUTO D. I., Route 202. Exec: Owen Holmes, Hampton Rd., and Daytz Th. Ent., 260 Tremont St., Boston. (660)

West Pittsfield, Mass., BERKSHIRE D. I., 1501 W. Housatonic St. Exec: H. Lazaros. (600)

Westport, Mass , WESTPORT D. I., P. O. Box 98. Exec: N. Yamins Ths., Providence, R. I., and Daytz Th. Ent., 260 Tremont St.. Boston. (692)

West Springfield, Mass., RIVERDALE D. I., 935 Riverdale. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (600)

West Springfield, Mass , WEST SPRINGFIELD D. I., Route 20. Exec: American Ths. Corp., 646 Washington St., Boston. (800)

Weymouth, Mass , WEYMOUTH D. I., Route 3A. Exec: American Ths. Corp., 646 Washington St., Boston. (600)

New Hampshire

Alton, N. H., ALTON D. I. Exec: Charles Hunt and Daytz Th. Ent., 260 Tremont St., Boston. Mass. (276)

Claremont, N. H., CLAREMONT D. I., Rt. 103 and 11 Newport Rd. Exec: Robert Zerinsky. (500)

Concord, N. H., CONCORD D. I., Box 339. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ents., 260 Tremont St., Boston, Mass. (500)

Gorham, N. H., GRANDVIEW D. I. Exec: Joseph Josephs. (400)

Hookset, N. H., SKY VIEW D. I. Exec: A. Bougue, and Affiliated Ths. Corp., 31 St. James Ave, Boston, Mass. (500)

Keene N. H., KEENE D. I. Exec: Joseph Mathieu, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

Manchester, N. H., MANCHESTER D. I., 777 S. Willow. Exec: N. Yamins, Providence, R. I., and Daytz Th. Ent., 260 Tremont St., Boston. Mass. (500)

Manchester. N. H., PINE ISLAND D. I., Rt. 3A and 18. Exec: Harold Prince. (300)

Nashua, N. H., NASHUA D. I., R.F.D. #1. Exec: J. E. Bronstein, and Daytz Th. Ent., 260 Tremont St.. Boston, Mass. (500)

Newington. N. H., OPEN AIR D. I. Exec: James Nadeau, 26 Hough St., Dover, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

North Conway, N. H., WHITE MOUNTAIN D. I. Exec: A. F. Stoughton, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (250)

North Hampton, N. H., NORTH HAMPTON D. I. Exec: Fucci Bros., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (400)

Orford, N. H., STARLIGHT D. I., Hwy. 10. Exec: Leighton K. Godfrey, and Daytz Th. Ent, 260 Tremont St., Boston. Mass. (—)

Rochester. N. H., SUNSET D. I., Route 16. Exec: James Nadeau, 26 Hough St., Dover, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

Salem, N. H., OLE ROCK D. I. Exec: James A. Sayer, Jr. (324)

Somersworth, N. H., STAR WAY D. I., Rt. 16, Box 188. Exec: James A. Sayer, Jr. (400)

Twin Mountain. N. H , TWIN MOUNTAIN D. I. Exec: Armand Duranleau. (400)

Weirs. N. H., WEIRS D. I. (Laconia). Exec: H. Gaudet, and Affiliated Ths. Corp., 31 St. James Ave., Boston. Mass. (500)

Woodsville, N. H., DRIVE IN. Exec: Andrew Tegu, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (300)

Rhode Island

Cranston, R. I., CRANSTON AUTO D. I., Oaklawn Ave., P. O. Box 75. Exec: William Deitch, and Affiliated Ths Corp., 31 St. James Ave., Boston, Mass. (1000)

Johnston, R. I., PIKE D. I., 1864 Hartford Ave. Exec: Herman Rifkin Ths., 39 Church St., Boston, Mass. (700)

North Smithfield R. I., RUSTIC D. I. Exec: M. Stanzler, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

Providence, R. I., PROVIDENCE D. I., Route 1. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (600)

Smithfield, R. I., ROUTE 44 D. I. Exec: Mel Safner, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (800)

Westerly, R. I., WESTERLY D. I. Exec: Louis Vuona, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (500)

Vermont

(NOTE: See also Albany Territory)

Ascutney, Vt., MIDWAY D. I. Exec: Henry Garneau. (356)

Bellows Falls, Vt, BELMONT D. I. Exec: R. M. Stucker, Chester Depot, and Herbert Higgins, Statler Bldg., Boston, Mass. (400)

Berlin, Vt., BERLIN D. I. Exec: R. Cody, and Hy Young, 68 Cliffmont St., Roslindale, Mass. (540)

Berlin, Vt., TWIN CITY D. I. Exec: M. Paruette, and Herbert Higgins, Statler Bldg., Boston, Mass. (450)

Brattleboro, Vt, PARKWAY D. I., Putney Rd. Exec: Marius Bonneau, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (450)

Burlington, Vt., SUNSET D. I., Route 127. Exec: D. Handy, and Daytz Th. Ent., 260 Tremont St., Boston, Mass (600)

Colchester, Vt., MALLETTS BAY D. I. Exec: Gordon Jarvis, and Affilinted Ths. Corp., 31 St. James Ave., Boston, Mass. (360)

Derby, Vt., DERBY PORT D. I. Exec: D. McNally. (300)

Fairlee, Vt., HOLIDAY PARK D. I. Exec: Reginald Drown, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (200)

Milton, Vt., MILTON D. I. Exec: A. A. Viens, and Herbert Higgins, Statler Bldg., Boston, Mass. (300)

Morrisville, Vt., MORRISVILLE D. I. Exec: D. H. McNally. (150)

New Haven, Vt., MID HAVEN D. I. Exec: E. Morris, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

North Montpelier, Vt., HOMESTEAD D. I. Exec: John C. Coffrin. (300)

Richford, Vt., RICHFORD D. I. Exec: Roy D. Brown, and Hy Young, 69 Cliffmont St., Roslindale, Mass. (400)

Rutland, Vt., RUTLAND D. I. Exec: Edwin A. Morgan, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (360)

Saint Albans, Vt., ST. ALBANS D. I., R.F.D #1 Exec: R. J. Ryan, Ralph W. Dexter, and Herbert Higgins, Statler Bldg., Boston, Mass. (550)

Saint Johnsbury, Vt., BLUE MOON D. I. Exec: D. McNally. (378)

White River Junction, Vt., WHITE RIVER D. I. Exec: Interstate Ths., 260 Tremont St., Boston, Mass. (600)

Winooski, Vt., DRIVE IN. Exec: Edw. Fedell, Rialto Th., Worcester, Mass. (400)

BUFFALO TERRITORY

New York

(NOTE: See also Albany and New York Territories)

Allegany, N. Y., ALLEGANY D. I. Exec: Louis Drew, and Harry Berkson, 505 Pearl St., Buffalo. (550)

Angola, N. Y. GRAND VIEW D. I., Evans Rd., Route 5. Exec: Elmer Reitler. (832)

Athol Springs, N. Y., SKYWAY D. I., Lakeshore Rd. Exec: Wm. Brett, and Wm. Rosenow, 170 Franklin St., Buffalo. (1050)

Auburn, N. Y., FINGER LAKES D. I. (Aurelius). Exec: Anthony DeNiro and Don Wilson, 44 West St. (300)

Batavia, N. Y., BATAVIA D. I. (Stafford). Exec: Dipson Ct. (500)

Batavia, N. Y., SKYWAY GENESEE D. I., Clinton St. Road. Exec: Raymond Babcok. (400)

Bath, N. Y., BATH D. I., Lake Road, P. O. Box 649. Exec: H. F. Peters. (516)

Big Flates, N. Y., ELMIRA D. I., Box 929. Exec: H. L. Berinstein, P. O. Box 1093, Syracuse. (500)

Binghamton, N. Y., FRONT D. I. (Nimmonsburg), 1260 Front St., Box 106. Exec: Herbert Nittke. (600)

Blasdell, N. Y., STAR D. I., Lake Ave. Exec: Platt Bros. Ct., 1701 Blvd. at the Allies, Pittsburgh, Pa. (550)

Buffalo, N. Y., NIAGARA D. I. (Tonawanda), Niagara Falls Blvd. Exec: Wm. Bret and Wm. Rosenow, 170 Franklin St. (700)

Canandaigua, N. Y., PARKWAY D. I., Rt. 5. Exec: Slotnick and Grudell. (400)

Cheektowaga, N. Y., AERO D. I., 3755 Union Rd. Exec: Al Wright, and R. J. Hoelcle. (500)

Cheektowaga, N. Y., BROADWAY D. I. Exec: Marvin Atlas, 305 Mt. Vernon Rd., Snyder. (800)

Cheektowaga, N. Y., BUFFALO D. I., Harlem Rd. Exec: Alex Wintner, N.B.C. Bldg., Cleveland 14, Ohio. (600)

Cicero, N. Y., NORTH D. I., N. Syracuse-Cicero Rd. Exec: Sam Slotnick. (850)

Corning, N. Y., CORNING D. I. Exec: James Ryan. (500)

DeWitt, N. Y., DEWITT D. I. (Syracuse). Exec: Sam Slotnick and Albert Gilbert. (800)

Dryden, N. Y., DRYDEN D. I. Exec: H. L. Berinstein, P. O. Box 1093, Syracuse. (550)

Ebenezer, N. Y., PARK D. I., Orchard Park Rd. Exec: Frank Stephen. (500)

Endwell, N. Y., TRI-CITIES D. I. (Formerly GEORGE F), (Binghamton), George F. Hwy. Exec: Mecco Ths. Ct., 27 Chenango St., Binghamton. (600)

Gasport, N. Y., LOCKPORT D. I., Route 31. Exec: George F. Tator, Buffalo. (300)

Geneva, N. Y., SENECA D. I., Box 251. Exec: Louis Drew, and Harry Berkson, 505 Pearl St., Buffalo. (500)

Greece, N. Y., CENTRAL D. I. (Rochester), 1700 Long Pond Rd. Exec: Fred Schweppe, and Jack Tishkoff. (1000)

Greece, N. Y., LAKESHORE D. I. (Rochester), Ling Rd. Exec: Joseph Inmon, Joseph Trott, and Forest J. Robbins, 53 Winchester St., Rochester. (450)

Henrietta, N. Y., STARLITE D. I. (Rochester). Exec: Don Stevenson. (810)

Homer, N. Y., HOMER D. I., RD #2. Exec: W. A. Shaw. (390)

Hornell, N. Y., STARLITE D. I., P. O. Box 36. Exec: Louis Drew, and Harry Berkson, 505 Pearl St., Buffalo. (500)

Jamestown, N. Y., PIC 17 D. I. (Fluvanna), Route 17 RFD. Exec: Goldstein and Ochs. (600)

Lakewood, N. Y., LAKEWOOD D. I. (Mayville), Box 37. Exec: Blatt Bros. Ct., 1701 Blvd. of the Allies, Pittsburgh, Pa. (525)

Limestone, N. Y., LIMESTONE D. I., P. O. Box 707, Kane, Pa. Exec: Wayne Holms, Kane, Pa., and Cliff Brown, Treasurer, Bradford D. I. Corp. (400)

Lockport, N. Y., TRANSIT D. I. Exec: Anthony Ragusa. (350)

Maple Springs, N. Y., MIDWAY D. I., Rt. 17, % Blatt Brothers, Mayville. Exec: Blatt Bros. Ct., 1701 Blvd. of the Allies, Pittsburgh, Pa. (300)

Middleport, N. Y., SUNSET D. I., Churchill St. Exec: Alex Stornelli. (290)

Minetto, N. Y., MIDWAY D. I. (Oswego), Route 48. Exec: R. C. Canter. (450)

Niagara Falls, N. Y., STARLITE D. I., Military Rd. Exec: Robert and Richard Hayman. (730)

Perry, N. Y., SILVER LAKE D. I., Rt. 39, Perry-Castle Rd. Exec: Harry K. Martin, and Harold Hughes. (400)

Rochester, N. Y., ROCHESTER D. I., 1200 Scottsville Rd. Exec: Paul Wintner, N.B.C Bldg., Cleveland 14, Ohio, and George Hansen, and Rochester D. I. Th. Corp. (726)

Sennett, N. Y., EAST D. I. (Auburn), RD #6. Exec: Mrs. A. M. Wallace and Mrs. Shields, 20 North St., Auburn. (500)

Syracuse, N. Y., KALLET D. I. Exec: S. J. Kallet, Kallet Ths., Inc., Oneida. (950)

Tonawanda, N. Y., DELAWARE D. I., 4100 Delaware Ave. Exec: Louis Drew, and Harry Berkson, 505 Pearl St., Buffalo. (954)

Tonawanda, N. Y., SHERIDAN D. I. Exec: Irving Cohen. (700)

Van Buren Point, N. Y., VAN BUREN POINT D. I., R.F.D. #2, Dunkirk. Exec: Irving Cohen, and Albert Shapiro. (800)

Wallington, N. Y., SKYWAY D. I., Route 104. Exec: Thomas B. Nephew. (400)

Westfield, N. Y., WESTFIELD D. I. Exec: J. Catanya. (400)

West Webster, N. Y., EMPIRE D. I., P. O. Box 166, Rochester-Webster Rd. Exec: H. Gruden Hodges, and Mr. Murphy. (800)

CHARLOTTE TERRITORY

North Carolina

(NOTE: See also Atlanta Territory)

Albemarle, N. C., ALBEMARLE D. I., R.F.D. #2. Exec: G. L. Faw. (300)

Albemarle, N. C., BADIN ROAD D. I., Rt. 2, Hwy. 27. Exec: G. L. Faw. (400)

Asheboro, N. C., HI-WAY 49 W. D. I. Exec: G. L. Faw. (300)

Asheboro, N. C., NORTH 220 D. I., Route 220. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (484)

Asheville, N. C., AUTO D. I. Exec: W. C. Macon, Technical Bldg. (465)

Asheville, N. C., DREAMLAND D. I., Rt. 74 S. E. Old Black Mtn. Hwy., P. O. Box 2694. Exec: Dick Jennings. (600)

Asheville, N. C., STARLITE D. I. Exec: W. C. Macon and H. Southworth, Technical Bldg. (500)

Aulander, N. C., STARLITE D. I. Exec: A. P. Lassiter, A. P. Lassiter Ths., Conway. (196)

Ayden, N. C., DIXIE D. I. Exec: Max Ringhardt, Exhibitor Service, 116 Latta Arcade, Charlotte. (150)

Beaufort, N. C., EAST D. I., P. O. Box 147, Morehead City. Exec: Victor Wickizer. (198)

Belmont, N. C., BELMONT D. I., Hwy. 223. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (340)

Benson, N. C., STAR-VUE D. I., Route 301. Exec: Alonzo Parrish. (175)

Bessemer City, N. C., BESSEMER D. I., R.F.D. #2. Exec: R. G. Stinett. (200)

Beulaville, N. C., TWILIGHT D. I. Exec: A. Y. Lanier. (200)

Bladenboro, N. C., TWILITE D. I. Exec: H. M. Sykes. (200)

Boone, N. C., SKYVIEW D. I. Exec: A. E. Humby, Jr., and J. W. Hodges, Jr. (272)

Brevard, N. C., BREVARD D. I., Route #2. Exec: E. M. Marks. (250)

Brevard, N. C., STAR D. I. Exec: S. G. Siniard. (150)

Bryson City, N. C., HILL TOP D. I. Exec: J. E. Massie. (200)

Burgaw, N. C., ROWE D. I. Exec: Roy Rowe. (180)

Burlington, N. C., BON-AIR D. I. Exec: R. C. Saunders. (300)

Burlington, N. C., BUR-GRA D. I., 1924 Maple Ave. Exec: R. C. Saunders. (314)

Burlington, N. C., EAST 70 D. I., Box 707. Exec: Consolidated Ct., P. O. Box 2446, Charlotte. (424)

Canton, N. C., CANTON D. I. Exec: Clayton Mehaffey, Clyde. (300)

Cary, N. C., CAR-RAL D. I. (Raleigh), Box 1901, High Point. Exec: J. T. McSwain. (200)

Chadburn, N. C., LUCKY STAR D. I. Exec: D. W. Smith. (212)

Chapel Hill, N. C., PARK-VUE D. I. Exec: J. W. Thompson. (200)

Charlotte, N. C., ALBEMARLE ROAD D. I. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (320)

Charlotte, N. C., MONROE ROAD D. I. Exec: Bill Fowler. (134)

Charlotte, N. C., NORTH 21 D. I. Exec: Atlas Drive-In Ths., Inc., Radio City Bldg. (350)

Charlotte, N. C., NORTH 29 D. I., P. O. Box 1262, Hwy. 29. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (600)

Charlotte, N. C., SOUTH 21 D. I. Exec: Jack Wadsworth. (400)

Charlotte, N. C., SOUTH 29 D. I., P. O. Box 1262. Exec: Harris Robinson, Dixie Drive-In Ths. Walton Bldg., Atlanta, Ga. (500)

Charlotte, N. C., THRIFT ROAD D. I. (Thrift). Exec: C. H. Faw, Monroe. (300)

Charlotte, N. C., YORK ROAD D. I. Exec: Filip Ths., Inc. (300)

Cherryville, N. C., CHERRYVILLE D. I. Exec: John Ritchie. (250)

Chinquapin, N. C., HULA D. I. Exec: T. F. Sanderson. (200)

Chocowanity, N. C., CHO-CO D. I., P. O. Box 98. Exec: Floyd Cox, Box 495, Wnshington. (200)

Clinton, N. C., AIR PORT D. I., Hwy. 42, R.R. 1. Exec: J. D. Clark. (200)

Clinton, N. C., KITTY FORK D. I., Rt. 3. Exec: Hugh Sykes. (150)

Clinton, N. C., TOWER D. I., P. O. Box 864. Exec: T. A. Gale. (154)

Concord, N. C., CONCORD D. I., Hwy. 29. Exec: J. O. Willis. (302)

Concord, N. C., STARLITE D. I. Exec: J. O. Willis. (312)

Conover, N. C., NEW-CON D. I. Exec: Consolidated Ths., Inc., Box 2446, Charlotte. (250)

Creedmoor, N. C., BUTNER D. I. Exec: M. B. Glasgow. (200)

Dobson, N. C., DOBSON D. I. Exec: Max Reinhardt, Exhibitor Service, 116 Latta Arcade, Charlotte. (248)

Drexel, N. C., HI PEAK D. I. Exec: Dole Norris. (200)

Dublin, N. C., DUBLIN D. I. Exec: H. S. Brisson and Miller Taylor. (200)

Dunn, N. C., CENTER VIEW D. I. Exec: H. H. Jordon. (250)

Dunn, N. C., COTTON BOWL D. I., Dunn-Benson Hwy. Exec: Bill and Margaret Smith. (400)

Durham, N. C., COLLEGE VIEW D. I. Exec: Cordoza McCullum. (200)

Durham, N. C., MIDWAY D. I., Hwy. 70, Box 206. Exec: J. W. Wallace. (254)

Durham, N. C., SKYVIEW D. I., 3414 Wake Forest Rd. Exec: J. W. Wallace. (298)

Durham, N. C., STARLITE D. I., Hwy. 15. Exec: A. C. Riggsbee, 2144 Geer St. (190)

East Bend, N. C., EAST BEND D. I. Exec: D. W. Holder. (150)

Edenton, N. C., HI-WAY 17 D. I. Exec: Jimmy Earnhardt, Taylor Th. (196)

Elizabethtown, N. C., BLADEN LAKE D. I. Exec: R. G. Hobbs. (200)

Elkin, N. C., VALLEY D. I. Exec: D. E. Gwynn. (242)

Fairmont, N. C., HI-WAY 41 D. I., Hwy. 41. Exec: Lewis Whitley. (250)

Farmville, N. C., NEW D. I. Exec: R. E. Eason. (200)

Fayetteville, N. C., BOULEVARD D. I., Hwy. 87, Box 58, Rt. 4. Exec: Howard McNally. (442)

Fayetteville, N. C., CUMBERLAND D. I. Exec: H. D. Black. (196)

Fayetteville, N. C., FLAMINGO D. I. Exec: J. G. Wellons. (450)

Fayetteville, N. C., MIDWAY D. I., Bragg Blvd. Exec: J. G. Wellons. (350)

Fayetteville, N. C., RALEIGH ROAD D. I. Exec: H. B. Meiselman, Radio City Bldg., Charlotte. (400)

Fayetteville, N. C., SKYVIEW D. I. Exec: J. G. Wellons. (500)

Fayetteville, N. C., STARLITE D. I. Exec: J. G. Wellons. (450)

Forest City, N. C., MIDWAY D. I. Exec: Irvin Dantzie. (300)

Forest City, N. C., TRI-CITY D. I., Box 42A, Rt. 2. Exec: C. Duncan. (248)

Fuquay Springs, N. C., FIVE POINTS D. I., Hwy. 42. Exec: R. E. Boykin. (150)

Gastonia, N. C., DIANE 29 D. I., Hwy. 321, Rt. 1, Box 51. Exec: F. B. Griggs. (600)

Gastonia, N. C., MONTE VISTA D. I. Exec: Hugh Sykes. (350)

Gastonia, N. C., SUNSET D. I. Exec: F. B. Griggs. (225)

Gastonia, N. C., TOWER D. I., P. O. Box 1175. Exec: Consolidated Ths., Inc., Box 2446, Charlotte. (468)

Goldsboro, N. C., MODEL D. I., Route 5. Exec: A. P. Hinnant. (150)

Goldsboro, N. C., WACO D. I., Box 481, Hwy. 70. Exec: A. F. Same, Jr., Statesville Th. Corp. (200)

Grantsboro, N. C., GRANTSBORO D. I., Box 78. Exec: E. G. Gaskin. (200)

Greenboro, N. C., NORTH D. I., Hwy. 29, Box 732. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (565)

Greensboro, N. C., PARK D. I. Exec: R. F. Farbar. (300)

Greensboro, N. C., PIEDMONT D. I. (Guilford), P. O. Box 837. Exec: T. A. Little. (550)

Greensboro, N. C., SOUTH D. I., Box 732. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (460)

Greensboro, N. C., SUNDOWN D. I. Exec: Harry Stanley. (200)

Greenville, N. C., MEADOWBROOK D. I. Exec: T. F. Sanderson. (400)

Greenville, N. C., SOUTH 11 D. I., Rt. 2, Box 135, Hwy. 11. Exec: William S. Briggs. (300)

Hamlet, N. C., HAMLET D. I., Box 901. Exec: Billy King. (225)

Havelock, N. C., DIN HAO D. I., P. O. Box 285. Exec: Ervin Beck. (250)

Havelock, N. C., MARINE D. I. Exec: John Kime. (450)

Henderson, N. C., HENDERSON D. I., Hwy. 7, Box 554. Exec: Roy Turner and Bill Gregory. (350)

Henderson, N. C., MOON-GLO D. I. Exec: S. S. Stevenson. (360)

Henderson, N. C., STARLITE D. I. Exec: Sterling Fowler. (200)

Hendersonville, N. C., HENDERSONVILLE D. I. Exec: Ben Pless. (364)

Hickory, N. C., HICKORY D. I., Hwy. 64. Exec: J. P. Mull and R. C. Saunders. (350)

Hickory, N. C., SPRING ROAD D. I., P. O. Box 343. Exec: A. J. Rumley. (281)

High Point, N. C., MOON-GLO D. I., Route 1. Exec: C. W. Grubs. (250)

High Point, N. C., POINTER D. I. Exec: E. Y. Neill. (450)

High Point, N. C., TARHEEL D. I. (Archdale). Exec: Paul Jones, Rt. 2. (300)

Hildebran, N. C., MIDWAY D. I. Exec: R. C. Saunders. (300)

Holly Ridge, N. C., DRIVE IN. Exec: Sol Aragonia. (196)

Hudson, N. C., DRUM'S D. I., Hwy. 321. Exec: R. D. Drum, R.F.D. #1, Lenoir. (300)

Jacksonville, N. C., KELLUM'S D. I. (Formerly Jacksonville), P. O. Box 62, Hwy. 17. Exec: N. J. Kellum. (150)

Jacksonville, N. C., MARINE D. I. Exec: John M. Kime. (300)

Jacksonville, N. C., NEW RIVER D. I. Exec: W. E. Baysden. (300)

Jacksonville, N. C., STARLITE D. I., 1304 Hargett. Exec: Sol Aragonia. (240)

Kannapolis, N. C., PARK IN, Cannon Blvd. Exec: H. H. Everett, Everett Ent. Ct., Charlotte. (478)

Kenly, N. C., KENLY D. I. Exec: A. T. Hinnant. (200)

Kernersville, N. C., STARLITE D. I. Exec: Spud Stoker. (175)

King, N. C., KING D. I. Exec: D. E. Gwynn, Eden Ths., Leaksville. (224)

Kinston, N. C., BRIGHT LEAF D. I. Exec: E. G. Hill. (396)

Kinston, N. C., BROADWAY D. I., Hwy. 70. Exec: C. A. Broadway. (200)

Kinston, N. C., KINSTON D. I. Exec: A. P. Hinnant. (180)

Kinston, N. C., NU PONT D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (250)

Landis, N. C., PLAZA D. I., Box 174, China Grove. Exec: "Doc" Theimer, Roy Ferguson and Jack Wadsworth. (200)

Laurel Hill, N. C., STARLITE D. I. (Formerly Laurel Hill), Hwy. 74. Exec: Tom Britt. (200)

Laurinburg, N. C., FLAMINGO D. I. Exec: H. B. Meiselman, Radio City Bldg., Charlotte. (400)
Laurinburg, N. C., LAURA-MAX D. I., Hwy. 74. Exec: L. J. Whitley. (225)

Leaksville, N. C., EDEN D. I. Exec: D. E. Gwynn. (274)

Leaksville, N. C., LEAKSVILLE D. I. Exec: D. E. Gwynn. (300)

Lenoir, N. C., CAROLINA D. I. Exec: Stacy Davis. (300)

Lexington, N. C., LEXINGTON D. I., Rt. 5, R.F.D. #5. Exec: John Callahan. (420)

Lillington, N. C., CRUISE IN, Lillington Airport, Hwy. 421. Exec: A. J. Collins. (170)

Lincolnton, N. C., FRIENDLY D. I., Hwy. 321, Rt. 5. Exec: Ben Nation and B. Griggs. (260)

Lincolnton, N. C., ROSELAND D. I., Hwy. 27. Exec: W. Ray Chapman. (250)

Lincolnton, N. C., STARLITE D. I., Hwy. 321. Exec: A. E. Miller. (362)

Locust Level, N. C., LOCUST LEVEL D. I., Hwy. 158. Exec: R. W. Barbee, R.F.D. #1, Stanfield. (200)

Louisburg, N. C., CAR-VIEW D. I. Exec: A. F. Sams, Jr., Statesville Th. Corp. (250)

Lumberton, N. C., MODEL D. I. Exec: Jerry Mundy. (250)

Lumberton, N. C., STARLITE D. I., Hwy. 74. Exec: Jerry Mundy. (200)

Lumberton, N. C., 211 D. I., Route 5. Exec: H. A. Anderson. (400)

Madison, N. C., LAKE SIDE D. I. Exec: Cecil Ward. (260)

Madison, N. C., MADISON D. I., Rt. #1. Exec. J. T. Baker. (328)

Mamers, N. C., MELODY D. I. Exec: Ernest Clark. (100)

Marion, N. C., GARDEN CITY D. I. Exec: Hal Macon, Jr. (321)

Merry Hill, N. C., MIDWAY D. I., Hwy. 45. Exec: V. D. White. (196)

Midland, N. C., DRIVE IN. Exec: Marvin Widenhouse. (250)

Mocksville, N. C., DAVIE D. I., Avon St. Exec: N. S. Chaffin. (240)

Monroe, N. C., MONROE D. I. (Formerly Moonlight), Hwy. 74. Exec: C. H. Faw. (225)

Mooresville, N. C., MOORESVILLE-DAVIDSON D. I., Hwy. 21. Exec: W. M. Morgan. (186)

Mooresville, N. C., CAROLINA D. I. (Formerly Starlite). Exec: Dale Groom, Jr. (264)

Morehead City, N. C., OCEAN PARK D. I., P. O. Box 644. Exec: J. M. Kime, Alice Th., Roseboro. (250)

Morganton, N. C., SKYLINE D. I., Hwy. 64. Exec: J. J. Accardi and Spake. (262)

Mount Airy, N. C., BRIGHT LEAF D. I. Exec: E. L. Davis. (250)

Mount Airy, N. C., MOUNT AIRY D. I. Exec: E. L. Davis and E. R. Forest. (250)

Mount Holly, N. C., MOONLITE D. I. Exec: Luther Ritchie, Alexis. (200)

Mount Olive, N. C., CLEARVIEW D. I. Exec: Brondus Rivenbark. (300)

Murfreesboro, N. C., MURFREE D. I. Exec: A. P. Lassiter. (150)

Murphy, N. C., MURPHY D. I. Exec: Grover Maury and Jack Luceford. (200)

Nashville, N. C., WHITE'S D. I., Rt. 2. Exec: E. A. White. (200)

Newbern, N. C., CRAVEN D. I. Exec: Ralph O. Pate. (198)

Newbern, N. C., NEWBERN D. I. (Kinston), Hwy. 70. Exec: A. P. Hinnant. (184)

Newbern, N. C., STARLITE D. I. Exec: P. G. Parrott. (100)

Newton, N. C., SUNDOWN D. I. (Catawba). Exec: R. D. Drum, F. L. Cline and G. W. Murray. (200)

Norlina, N. C., NORLINA D. I. Exec: Stephen A. Daniel. (200)

North Wilkesboro, N. C., MILLERS CREEK D. I. Exec: Roy Cashion. (170)

North Wilkesboro, N. C., NORTH WILKESBORO D. I., Hwy. 16, Rt. 1. Exec: R. B. Adams. (228)

North Wilkesboro, N. C., STARLITE D. I. Exec: A. F. Sams, Jr., Statesville Th. Corp. (300)

Oxford, N. C., SKYLINE D. I., Henderson Rd., P. O. Box 828. Exec: R. Currin. (200)

Pembroke, N. C., CIRCLE D. I. Exec: E. B. Penree. (300)

Pilot Mountain, N. C., PILOT D. I. Exec: Gordon and Pell. (205)

Pinetops, N. C., PINES D. I., Hwy. 43. Exec: C. A. Holiday. (200)

Pink Hill, N. C., MOTOR PARK D. I., Box 13, Hwy. 11. Exec: A. F. Sams, Jr., Statesville Th. Corp. (198)

Plymouth, N. C., PLYMOUTH D. I. Exec: Shep Brinkley. (150)

Raeford, N. C., RAEFORD D. I., P. O. Box 665. Exec: Vernon D. Lowder. (160)

Raleigh, N. C., FOREST D. I., Louisburg Rd. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (476)

Raleigh, N. C., TOWER D. I., Wendell Hwy., P. O. Box 230. Exec: Wilby-Kincey Ct., Charlotte. (400)

Ramseur, N. C., DEEP RIVER D. I. Exec: R. G. Covington. (300)

Red Springs, N. C., RED SPRINGS D. I., Box 391. Exec: A. C. McSwain. (200)

Reidsville, N. C., LUCKY D. I., Box 1355. Exec: High Sykes. (275)

Reidsville, N. C., MIDWAY D. I. Exec: W. H. Hendrix, Box 672, Greensboro. (426)

Richlands, N. C., PARADISE D. I. Exec: W. E. Baysden. (150)

Roanoke Rapids, N. C., GASTON D. I. Exec: Lyle Wilson. (350)

Roanoke Rapids, N. C., STARLITE D. I. Exec: Lyle Wilson. (350)

Robersonville, N. C., SUNDOWN D. I. Exec: J. H. Highsmith. (200)

Rockingham, N.C., ROCK-HAM D. I. Exec: Lewis J. Whitley. (200)

Rockingham, N. C., SKY-VIEW D. I., Hwy. 74. Exec: Lewis J. Whitley. (250)

Rocky Mount, N. C., HI-WAY N. 301 D. I. Exec: Ray Thompson. (180)

Rocky Mount, N. C., SKY-VUE D. I., Hwy. 64, Rt. 2. Exec: Vernon Holder. (240)

Rocky Mount, N. C., TOWER D. I., Tarboro Hwy. Exec: Wilby-Kincey Ct., Charlotte. (400)

Roseboro, N. C., SKYTOP D. I. Exec: Reuben Harris. (150)

Roxboro, N. C., CAROLINA D. I., Rt. 21. Exec: R. M. O'Briant. (150)

Saint Pauls, N. C., JOY D. I. Exec: O. K. Hogan. (200)

Salisbury, N. C., HITCHIN POST D. I. Exec: J. W. Mitchell. (300)

Salisbury, N. C., HIWAY 601 D. I. Exec: S. L. Pinkston. (450)

Salisbury, N. C., SALISBURY D. I., Albemarle Hwy. 29. Exec: J. W. Martin. (392)

Sanford, N. C., LEE D. I. Exec: O. C. Cagle. (250)

Sanford, N. C., NORTHVIEW D. I. Exec: H. J. Chapman. (250)

Sanford, N. C., SANFORD D. I., P. O. Box 755, Hwy. 1. Exec: H. J. Chapman. (300)

Saw Mills, N. C., SKYLITE D. I., Box 304. Exec: J. E. Moore. (275)

Scotland Neck, N. C., HALIFAX D. I. Exec: Hall Bridges. (150)

Shelby, N. C., SHELBY D. I., Hwy. 18, P. O. Box 346. Exec: C. W. Queen. (250)

Shelby, N. C., SUNSET D. I. (Swninsville). Exec: Colonial Ths. (342)

Siler City, N. C., SILER CITY D. I. Exec: Mrs. Runa Greenleaf. (200)

Skyland, N. C., SKYLAND D. I., Hwy. 25. Exec: C. K. Carlyle. (250)

Smithfield, N. C., COUNTY D. I. Exec: Rudy Howell. (400)

Smithfield, N. C., SMITHFIELD-SELMA D. I., Hwy. 301. Exec: H. P. Howell. (190)

Smyrna, N. C., SMYRNA D. I., Hwy. 70. Exec: Ray Thompson. (125)

Southern Pines, N. C., STARVIEW D. I., Hwy. 1. Exec: C. A. Huntley. (200)

Sparta, N. C., TWIN OAKS D. I. Exec: Marvin Caudill. (200)

Spruce Pines, N. C., TRI COUNTY D. I. (Formerly Spruce Pines). Exec: Tom Cooper. (175)

Statesville, N. C., HILLCREST D. I. (Formerly Statesville). Exec: A. F. Sams, Jr., Statesville Th. Corp. (300)

Statesville, N. C., VILLA HEIGHTS D. I., Hwy. 21, 1321 W. Front St. Exec: S. C. Cline. (324)

Stedman, N. C., MOONLITE D. I. Exec: Alonzo Parrish, Jr. (175)

Swansboro, N. C., SWANSBORO D. I. Exec: Clayton Humphrey. (200)

Sylva, N. C., SYLVA D. I. Exec: J. E. Massie. (200)

Tabor City, N. C., PLAZA D. I., Hwy. 701. Exec: Mrs. Willis Gause. (175)

Tarboro, N. C., STAR-VUE D. I. Exec: Vernon Holder. (200)

Taylorsville, N. C., TAYLORSVILLE D. I. Exec: H. B. Fortner. (284)

Thomasville, N. C., MIDWAY D. I. Exec: T. A. Little. (485)

Troy, N. C., BISCOE-TROY D. I. Exec: G. L. Faw. (254)

Tryon, N. C., LAKE LANIER D. I. Exec: Stewart-Everett Ths. (200)

Wadesboro, N. C., ANSON COUNTY D. I. Hwy. 74. Exec: J. F. Medley. (160)

Wadesboro, N. C., S. 52 D. I. Exec: L. J. Whitley. (200)

Walkertown, N. C., WALKERTOWN D. I. Exec: Dunlap & Booth. (200)

Wallace, N. C., PEN-LIN D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Wallace, N. C., WALLACE D. I., Rt. 2, Box 300, Hwy. 117. Exec: E. C. Sanderson. (200)

Walnut Grove, N. C., WALNUT GROVE D. I. Exec: Hassel A. Fagg. (196)

Washington, N. C., PARK VUE D. I., Hwy. 264. Exec: Thomas A. Bateman. (250)

Waynesville, N. C., SMOKEY MOUNTAIN D. I. Exec: H. M. Sykes. (190)

Waynesville, N. C., WAYNESVILLE D. I. Exec: Homer West. (225)

Weeksville, N. C., WEBB D. I. Exec: J. H. Webster. (250)

Welcome, N. C., WELCOME D. I. Exec: E. E. Kepley and P. H. Phillips. (255)

Wendell, N. C., WHITES D. I. Exec: E. A. White. (200)

West Asheville, N. C., OUTDOOR D. I. Exec: W. C. Mason, Technical Bldg., Asheville. (324)

West Jefferson, N. C., JEFFERSON D. I. Exec: R. B. Adams, N. Wilkesboro. (150)

Whiteville, N. C., STARLITE D. I., Box 188, Hwy. 76. Exec: Marion Davis. (300)

Williamston, N. C., TWILITE D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Wilmington, N. C., CAROLINA BEACH RD. D. I., P. O. Box 1304. Exec: W. E. Thrush, Rt. 2, Box 300A. (380)

Wilmington, N. C., NORTH 17 D. I. Exec: C. D. Holder, Mgr. (400)

Wilmington, N. C., PARKVIEW D. I. Exec: W. E. Thrush, Rt. 2, Box 300A. (400)

Wilmington, N. C., SKYLINE D. I. Exec: Irwin Rourk. (450)

Wilmington, N. C., STARWAY D. I. Exec: C. D. Holder. (700)

Wilmington, N. C., WRIGHTSVILLE ROAD D. I., Box 125. Exec: Irwin Rourk. (260)

Wilson, N. C., STARLITE D. I., Hwy. 117. Exec: Roy L. Champion, P. O. Box 1330. (450)

Wilson, N. C., PINE VALLEY D. I., 410 Maplewood Ave. Exec: Roy L. Champion, P. O. Box 1330. (200)

Wingate, N. C., MOONLITE D. I. Exec: C. H. Faw. (175)

Winston-Salem, N. C., FLAMINGO D. I., Box 2739, Greensboro Rd. Exec: J. M. Cashion. (500)

Winston-Salem, N. C., MIDWAY D. I. (Formerly Park-Vue), P. O. Box 3175. Exec: Max Herman. (200)

Winston-Salem, N. C., ROBIN HOOD D. I., 3400 Robin Hood Rd. Exec: C. C. Whickes. (400)

Winston-Salem, N. C., SKYVIEW D. I., Hwy. 421, Konnoak Dr. Exec: Ellis Blumenthal. (686)

Winston-Salem, N. C., WINSTON-SALEM D. I., 516 W. 28th St. Exec: P. G. McGee. (464)

Yadkinville, N. C., YADKINVILLE D. I. Exec: R. E. Zachery. (200)

South Carolina

Abbeville, S. C., SHARON D. I. (Calhoun Falls), P. O. Box #7, Calhoun Falls. Exec: W. M. Broadwell. (200)

Aiken, S. C., AIKEN D. I., Rt. 2, Hwy. 278. Exec: J. T. Simon. (150)

Aiken, S.C., FOX D. I. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (600)

Aiken, S. C., PARK D. I. Exec: P. H. Riley. (200)

Aiken, S. C., TOWER D. I. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (400)

Allendale, S. C., ALLENDALE D. I. Exec: R. D. White, Jr. (250)

Anderson, S. C., FOX D. I. Exec: Preston Temple. (300)

Anderson, S. C., HI-WAY 29 D. I., Route 29. Exec: Wilby-Kincey Ct., Charlotte, N. C. (402)

Anderson, S. C., SKYWAY D. I., P. O. Box 537, Hwy. 179. Exec: W. E. Osteen, 1011 N. Main St. (372)

Andrews, S. C., DRIVE IN. Exec: R. H. Gibson and S. W. Ackerman. (300)

Bamberg, S. C., BAMBERG-DENMARK D. I., Hwy. 78. Exec: J. C. Kearse. (100)

Barnwell, S. C., SOUTH HILL D. I. Exec: Walter Brown and Assoc. (277)

Barnwell, S. C. STARLITE D. I. Exec: Mrs. J. F. Dobson. (200)

Barnwell, S. C., SWEETWATER D. I. Exec: Mrs. J. F. Dobson. (200)

Beaufort, S. C., BEAUFORT D. I., Hwy. 21. Exec: H. O. Peoples. (104)

Beaufort, S. C., GREENLAWN D. I., Box 289. Exec: D. S. Polk. (200)

Beaufort, S. C., ROYAL D. I., Exec: J. W. Millian. (200)

Bennettsville, S. C., BOND'S D. I., Box 129, Hwy. 9. Exec: Walter H. Bonds. (300)

Bennettsville, S. C., STARLITE D. I. Exec: W. C. Evans. (200)

Bishopville, S. C., SILVER STAR D. I. Exec: Dan David. (190)

Buffalo, S. C., SUNSET D. I. Exec: R. L. Wilburn. (200)

Camden, S. C., SKYVIEW D. I. Exec: T. L. Little. (180)

Camden, S. C., LUGOFF D. I. (Formerly Wayside), Hwy. 1. Exec: E. T. Truesdell. (175)

Charleston, S. C., FLAMINGO D. I. (North Charleston). Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (460)

Charleston, S. C., FOUR MILE RUN D. I. Exec: L. H. Ayers. (175)

Charleston, S. C., MAGNOLIA D. I., Box 223. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (510)

Charleston, S. C., NORTH 52 D. I. (North Charleston). Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (484)

Charleston, S. C., ST. ANDREWS D. I. (St. Andrews). Exec: John Pembroke. (200)

Cheraw, S. C., VARIETY D. I. Exec: M. L. Workman. (200)

Chesnee, S. C., CHESNEE D. I. Exec: George Ward. (200)

Chester, S. C., CHESTER D. I., Box 435. Exec: W. A. Bagley. (248)

Clinton, S. C., MIDWAY D. I. Exec: R. D. Nance. (264)

Columbia, S. C., ALTA VISTA #1 D. I., Rt. 3. Exec: E. G. Dennis and Marion Smith. (222)

Columbia, S. C., ALTA VISTA #2 D. I. Exec: E. G. Dennis and Marion Smith. (300)

Columbia, S. C., BELT LINE D. I. Exec: C. S. Burts. (330)

Columbia, S. C., NORTH 21 D. I., R.F.D. #1. Exec: T. G. Castles. (337)

Columbia, S. C., SKYWAY ANNEX D. I. Exec: W. T. Cameron. (200)

Columbia, S. C., SKYWAY D. I., P. O. Box 5191. Exec: Max Rinehardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (300)

Columbia, S. C., STARLITE D. I., 4501 Fort Jackson Blvd., Rt. 76. Exec: Wilby-Kincey Ct., Charlotte, N. C. (500)

Columbia, S. C., SUNSET D. I. Exec: Max Rinehardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (400)

Conway, S. C., CONWAY D. I., Hwy. 503. Exec: H. V. Hewitt, Tabor City, N. C. (160)

Conway, S. C., 501 D. I. Exec: Howard Anderson. (202)

Cowpens, S. C., CHERRY HILL D. I. (Spartansburg), Rt. #1. Exec: H. P. Chapman. (318)

Crescent Beach, S. C., OCEAN BREEZE D. I., Hwy. 17. Exec: Charlie Utley. (175)

Darlington, S. C., DUAL HI-WAY D. I., R.F.D. #4. Exec: C. A. Truluck. (155)

Denmark, S. C., VIKING D. I., 7th Ave. and Hwy. 70. Exec: G. Frank Lundy. (150)

Dillon, S. C., HI-WAY 301 D. I., Hwy. 301. Exec: H. A. Anderson. (216)

Easley, S. C., EASLEY D. I. Exec: W. B. Reeves. (450)

Elloree, S. C., ELLOREE D. I. Exec: E. B. Mack. (100)

Ehrhardt, S. C., EHRHARDT D. I., Hwy. 64. Exec: J. T. Greene, Jr., Brancheville. (200)

Fairfax, S. C., FAIRFAX D. I. Exec: W. H. Smith. (160)

Florence, S. C., BRIGHT-LEAF D. I., Box 1458, Hwy. 76. Exec: Stanley A. Benson, Ace Camera Supply. (250)

Florence, S. C., CIRCLE D. I. Exec: D. J. Stallworth. (284)

Florence, S. C., PALMETTO D. I. Exec: Sam Neil. (300)

Gaffney, S. C., GAFFNEY D. I. Exec: Campbell and Griffin. (282)

Gaffney, S. C., SKYVIEW D. I. Exec: Campbell and Griffin. (212)

Georgetown, S. C., HI-WAY 17 D. I. Exec: M. L. Abrams, Palace Th. (150)

Gloversville, S. C., VALLEY D. I. Exec: Curtis Tarlton and F. W. Free. (305)

Great Falls, S. C., MIDFORD D. I. (Formerly Lucky Star). Exec: L. E. Edwards. (254)

Greenville, S. C., AUGUSTA RD. D. I. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (600)

Greenville, S. C., SKYLAND D. I., Buncombe Rd. Exec: Wilby-Kincey Ct., Charlotte, N. C. (450)

Greenville, S. C., WHITE HORSE D. I. Exec: S. J. Workman. (500)

Greenwood, S. C., AUTO D. I. Exec: A. T. Livingston. (218)

Greenwood, S. C., HI-WAY 25 D. I., Rt. 2, P. O. Box 8. Exec: W. A. Gray. (360)

Greer, S. C., GREER D. I. Exec: H. B. McManus, B. C. Wilson, and Patricia Burns. (320)

Greer, S. C., KING COTTON D. I. Exec: N. E. Belmont. (250)

Hampton, S. C., HAMPTON D. I. Exec: J. G. Scott. (200)

Hardeeville, S. C., SOUTH 17 D. I. Exec: W. F. Greene. (158)

Hartsville, S. C., SOUTH 15 D. I. Exec: Leland Blackman. (222)

Hemingway, S. C., CRUISE-IN. Exec: Jack Green. (200)

Holly Hill, S. C., HOLLY HILL D. I., Hwy. 15. Exec: L. A. Ayers. (125)

Hollywood, S. C., PALMETTO D. I. Exec: J. G. Scott. (150)

Inman, S. C., MOONLITE D. I. Exec: George Ward, Colonial Th., Chesnee. (192)

Jackson, S. C., SUNSET D. I. Exec: Ray Sanford. (231)

Kershaw, S. C., FOSTER'S D. I. Exec: W. F. Truesdale. (200)

Kingstree, S. C., EARLS D. I. Exec: E. M. Gibbons. (200)

Kingstree, S. C., KINGSTREE D. I. Exec: W. D. and M. W. Funk. (224)

Lake City, S. C., EAST MAIN D. I. Exec: Wilder S. Funk and James E. Bethune. (100)

Lake City, S. C., LAKE CITY D. I., P. O. Box 164. Exec: Harry Wayne. (100)

Lancaster, S. C., HILLCREST D. I. Exec: A. J. Biggart. (210)

Lancaster, S. C., MOTOR D. I., Hwy. 93. Exec: A. J. Biggart. (344)

Laurens, S. C., LAURENS D. I., Hwy. 221. Exec: Jack Davis. (200)

Lexington, S. C., HALLS D. I. Exec: Harold Hall. (200)

Lexington, S. C., HY-NO. 1 D. I. Exec: W. E. Wessinger. (200)

Loris, S. C., FINKLEA D. I. Exec: Harry Ludlam. (100)

Manning, S. C., HIWAY 301 D. I. Exec: Leighton Parker. (200)

Marion, S. C., MARION D. I., 911 Evans Rd., Hwy. 501. Exec: R. W. Pigg and A. H. Powell. (175)

Marion, S. C., SWAMP FOX D. I. Exec: H. A. Anderson. (270)

Moncks Corner, S. C., BERKLEY D. I. (Formerly Moncks Corner). Exec: W. F. Friddell. (200)

Monetta, S. C., MONETTA D. I. Exec: Sam Bogo. (230)

Mount Pleasant, S. C., SEA BREEZE D. I. Exec: Roy Ferguson and Bill Talbert. (300)

Mullins, S. C., MULLINS 76 D. I. Exec: Howard Anderson, Anderson Th. Co. (250)

Myrtle Beach, S. C., MYRTLE BEACH D. I. Exec: Howard Anderson, Anderson Th. Co., Mullins. (400)

Myrtle Beach, S. C., FLAMINGO D. I. Exec: W. C. Evans. (200)

Newberry, S. C., CLOVER-LEAF D. I. Exec: R. T. Albright. (200)

New Ellenton, S. C., SKYLINE D. I., Hwy. 19. Exec: J. T. Greene, Jr. and Mrs. J. T. Greene, Jr., Branchville. (294)

Nichols, S. C., NICHOLS D. I. Exec: Lois Barnes. (150)

Orangeburg, S. C., BON-AIR D. I., Hwy. 42. Exec: B. L. Watkins, Jr., 159 W. Calhoun St. (202)

Orangeburg, S. C., ORANGEBURG D. I., Hwy. 210. Exec: Mrs. Florence Turlton. (200)

Orangeburg, S. C., SKYLINER D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (200)

Ridgelands, S. C., RIDGELAND D. I. Exec: John Hubbard, Jr. (200)

Rock Hill, S. C., AUTO D. I., Rt. 4, Box 251-A. Exec: Max Reinhardt, Exhibitors Serv., 116 Latta Arcade, Charlotte, N. C. (304)

Rock Hill, S. C., FORT-ROCK D. I., Hwy. 21. Exec: Bob Jeffries, P. O. Box 1416, Charlotte, N. C. (300)

Rock Hill, S. C., ROCK HILL D. I. Exec: W. M. Patrick. (350)

Saint George, S. C., SKYVUE D. I. (Formerly Saint George). Exec: J. T. Greene, Jr. (150)

Saluda, S. C., SALUDA D. I. Exec: J. H. Ridgell. (150)

Simpsonville, S. C., VILLI D. I. Exec: M. B. Goodenough. (200)

Spartanburg, S. C., PINE STREET EX. D. I. Exec: N. E. Belmont. (300)

Spartanburg, S. C., ROXY D. I. Exec: R. C. Saunders. (200)

Spartanburg, S. C., SCENIC D. I. Exec: Wade McManus. (394)

Spartanburg, S. C., STARLITE D. I., Route 7. Exec: T. A. Little. (300)

Summerville, S. C., SUMMERVILLE D. I., Hwy. 64. Exec: L. H. Ayers. (200)

Sumter, S. C., SUMTER D. I., P. O. Box 789, Hwy. 521. Exec: John J. Motley, Jr. (160)

Sumter, S. C., SUNSET D. I., Box 375. Exec: C. B. Andrews. (200)

Taylors, S. C., BELMONT D. I. Exec: N. E. Belmont. (200)

Union, S. C., UNION D. I., Hwy. 92. Exec: Leo Wann. (225)

Walterboro, S. C., WALTERBORO D. I., Hwy. 17. Exec: E. B. Funderburk. (194)

Ware Shoals, S. C., HILL'S D. I. Exec: Louis Hill. (150)

Ware Shoals, S. C., HONEA-WARE D. I. (Honea Path). Exec: Erve Olson. (220)

West Columbia, S. C., HALL'S D. I. Exec: Harold Hall. (400)

Williamston, S. C., FRIENDLY D. I. Exec: W. M. Broadwell. (150)

Williston, S. C., NEW ERA D. I. Exec: J. F. Dobson. (200)

Winnsboro, S. C., WINNRIDGE D. I. Exec: W. Brown. (200)

York, S. C., YORK-CLOVER D. I. (Filbert). Exec: W. E. Calhaway. (200)

CHICAGO TERRITORY

Illinois

(NOTE: See also Des Moines and Saint Louis Territories)

Aurora, Ill., HI LITE 30 D. I., U. S. 30, Joliet Rd. Exec: Dr. R. J. Krzysowski, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (740)

Belvidere, Ill., BELMAR D. I. Exec: Belmar Th. Co., and Howard and Cyril Lindroth, and Larry Fleming. (400)

Bloomington, Ill., PHIL KRON D. I., 1720 S. Main St. Exec: Ken Phillips and Peter Kronas. (510)

Buckley, Ill., BUCKLEY D. I. Exec: Walter E. Swanstrom. (100)

Champaign, Ill., TWIN CITY D. I., N. Market St., Rd. C, P. O. Box 26. Exec: J. W. Barr, Twin City D. I. Th. Corp. (758)

Chicago, Ill., (Posen), ABC D. I. (Blue Island), 2443 Union St. Exec: ABC Theatrical Ltd., C. B. Atkins, VP. (800)

Chicago, Ill., CHICAGO'S DOUBLE D. I., Nr. 76th and Mozart. Exec: M and R Amuse. Corp., 1777 Howard St., and S. B. Greiver, 1235 S. Wabash Ave. (1800)

Chicago, Ill., HARLEM AVE. D. I., 4101 N. Harlem Ave. Exec: Essaness Ths. Corp., 540 N. Michigan Ave. (1030)

Chicago, Ill., SUNSET D. I. (Skokie), Touhy and McCormick Blvd. Exec: Jerome and Raymond Marks, Martin Rosenfield, and S. B. Greiver, 1235 S. Wabash Ave. (1350)

Clinton, Ill., FAMILY D. I. Exec: L. Frank Stewart, Family Amuse. Co., Rivoli Ths., Danville. (400)

Danville, Ill., DIXIE D. I., Dixie Hwy. N., Box 296. Exec: Wisher Myers, Pres., East Side Auto Th. Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (450)

Danville, Ill., ILLIANA D. I. Exec: Wisher Myers, Pres., East Side Auto Th. Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (650)

Danville, Ill., SKY-WAY D. I., 16 Dodge. Exec: Jack Butler, Skyway Th. Co. (600)

Decatur, Ill., DRIVE-IN, 2300 N. Jasper. Exec: Kerasotes Ths. Ct., Springfield. (954)

Decatur, Ill., 121 OUTDOOR D. I. Exec: Kerasotes Ths. Ct., Springfield. (750)

DeKalb, Ill., DE VAL D. I. Exec: Valos Ths. Ct., 220 S. States, Chicago. (448)

Elgin, Ill., STAR VIEW D. I., R. #4. Exec: J. H. Reckas. Pres., Starview Outdoor Th., Inc. (500)

Elmhurst, Ill., SKI-HI D. I., Roosevelt and Butterfield. Exec: Louis Jelinek, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (450)

Freeport, Ill., COMET D. I., P. O. Box 636. Exec: Steve Bennis, Lincoln Th., Lincoln. (562)

Galesburg, Ill., GALESBURG D. I. Exec: R. Lawler, 105 Biltmore, Peoria. (450)

Grays Lake, Ill., FAMILY D. I., Rts. 83 and 120. Exec: R. T. Held, Family Outdoor Th., Ltd., and Mr. Nelson. (800)

Havana, Ill., HAVANA D. I. Exec: Kerasotes Ths. Ct., Springfield. (400)

Hoopeston, Ill., SKY WAY D. I. Exec: Jack Butler, Skyway Th. Co., Danville. (400)

Joliet, Ill., BEL-AIR D. I. Exec: H. and E. Balaban Ct., 190 N. State, Chicago, and T. L. Wagner, Pres., Bel Air Th. Co. (1000)

Joliet, Ill., HILL TOP D. I., 1800 Maple Rd. Exec: H. and E. Balaban Ct., 190 N. State, Chicago. (623)

Kankakee, Ill., 54 D. I., Rt. 54, Fair St. and Greenwood. Exec: S. J. Gregory, Alliance Ths. Ct., 231 S. La Salle St., Chicago. (600)

Kankakee, Ill., STARLITE D. I. Exec: R. Lawler, Associated D. I. Ths., 105 Biltmore, Peoria. (800)

Kewanee, Ill., WANEE D. I. Exec: Rud Lohrenz, Wanee Ths. (375)

La Grange, Ill., 66 D. I., Box 257, Rt. 45, Joliet and La Grange Rd. Exec: Philip Smith Ct., 82 Newberry St., Boston, Mass., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (1156)

La Salle, Ill., IVY-WAY D. I., Route 6. Exec: Alliance Ths. Ct., 231 S. La Salle St., Chicago. (500)

Lincoln, Ill., BENNIS AUTO VUE D. I. Exec: Steve Bennis, Lincoln Th. (300)

Lincoln, Ill., LINCOLN D. I. Exec: W. H. McKee, Lincoln D. I., Inc., P. O. Box 244, Terre Haute, Ind. (475)

Macomb, Ill., FORT D. I. Exec: W. W. Allen and Earl J. Williams, Earl Th., Knoxville. (350)

McHenry, Ill., SKYLINE D. I. Exec: R. J. Miller, and S .B. Greiver, 1235 S. Wabash Ave., Chicago 5. (750)

Morton Grove, Ill., MORTON GROVE D. I., 9500 N. Waukegan. Exec: N. S. Barger. (600)

Norris, Ill., HILLCREST D. I. Exec: E. Turkey and A. F. Stockburger, Norris Th. Ct., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (506)

Oak Lawn, Ill., STAR LITE D. I., 95th and Ridgeland. Exec: E. Cooper, Pres., Starlite Drive-In, Inc., and H. Schoenstadt and Sons, 1118 S. Michigan Ave., Chicago. (1200)

Oak Lawn, Ill., TWIN OPEN AIR D. I., 87th and Cicero. Exec: N. S. Barger. (2000)

Oregon, Ill., PINES D. I. Exec: Russell and James Lamb, Oregon Th. (303)

Pekin, Ill., PEKIN D. I. Exec: E. V. Youngblook, W. H. McKee, Al Byrd, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (500)

Pekin, Ill., STAR-LITE D. I. Exec: Kerasotes Ths. Ct., Springfield. (700)

Peoria, Ill., BELLEVUE D. I., 100 E. State St. Exec: Abner Klein, General D. I. Th. Co. (996)

Peoria, Ill., PEORIA D. I., W. Glen Ave. Exec: Ralph Lawler, 105 Biltmore. (752)

Pontiac, Ill., PONTIAC D. I. Exec: T. E. Lally. (264)

Prairieville, Ill., MIDWAY D. I. (Dixon). Exec: John Kontos, L. G. Rorer, Prairieville Th. Corp., % Sterling Th., Sterling. (400)

Rantoul, Ill., RANTOUL D. I. Exec: Kerasotes Ths. Ct., Springfield. (—)

River Grove, Ill., NORTH AVE. D. I. 1901 River Rd. Nr. North Ave. Exec: Essaness Ths. Ct., 540 N. Michigan Ave., Chicago. (1000)

Rockford, Ill., LIN'S AIR D. I. Exec: Howard A. and C. W. Lindroth. (424)

Rockford, Ill., RIVER LANE D. I., Rt. 173, Box 866. Exec: Bill Dubinsky, River Lane Amuse. Corp., and H. and E. Balaban Ct., 190 N. State, Chicago. (690)

Rockford, Ill., ROBIN D. I. Exec: H. and E. Balaban Ct., 190 N. State, Chicago. (726)

South Chicago Heights, Ill., SAUK TRAIL D. I. (Steger). Exec: Jack Cooney, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (500)

Streator, Ill., STREATOR D. I. Exec: Alliance Ths., 231 S. La Salle St., Chicago. (482)

Urbana, Ill., FAMILY D. I., Rt. 45. Exec: L. Frank Stewart, Family Amuse. Co., Rivoli Th., Danville. (564)

Waukegan, Ill., WAUKEGAN OUTDOOR D. I., U. S. 41 and Washington St. Exec: Henry C. Rhyan. (772)

Indiana

(NOTE: See also Cincinnati, Indianapolis and Saint Louis Territories)

Dunlap, Ind., MIDWAY AUTO D. I. Exec: Butler Cole, Midway Drive-In Th. Co., Inc., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (600)

Gary, Ind., MOONLITE D. I. Exec: Joseph Finerty, and S. B. Greiver, 1235 S. Wabash Ave., Chicago, 5, Ill. (1050)

Gary, Ind., Y AND W D. I., Twnshp. of Merrillville, Ind. Exec: Gary Outdoor Th. Corp., and Y and W Mgt. Corp., 642 Illinois Bldg., Indianapolis 4. (940)

Griffith, Ind., RIDGE D. I., Ridge Rd. and Cline Ave., Box 175. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (630)

Hammond, Ind., HAMMOND 41 OUTDOOR D. I., Rt. 41, Calumet and Sheffield. Exec: Indiana-Illinois Ths., Inc., 1307 S. Wabash Ave., Chicago 5, Ill. (1000)

Hammond, Ind., MOONLITE D. I. Exec: Peter McKeone, Tri-State Drive-In Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (1000)

La Porte, Ind., DELUXE D. I. Exec: Joe Million and Assoc. (485)

Michigan City, Ind., 212 OUTDOOR D. I., Rts. 12 and 20. Exec: Indiana-Illinois Ths., Inc., 1307 S. Wabash Ave., Chicago 5, Ill. (600)

Osceola, Ind., STAR LITE D. I., Route 20. Exec: The Holly Th. Co., and Louis Cochovety, Avon Ths., South Bend. (400)

Rolling Prairie, Ind., COMET D. I., Route 1. Exec: Keith McDaniel and Robert Wiley. (350)

South Bend, Ind., MOONLITE D. I., W. Chippewa Ave., Exec: Louis Cochovety, Avon Ths., and Lewneco D. I. Th. Corp. (1000)

South Bend, Ind., SOUTH BEND AUTO D. I., Rt. 2, 4903 W. Western Ave. Exec: G. Brenner, South Bend Drive-In Th., Inc., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (650)

CINCINNATI TERRITORY

Indiana

(NOTE: See also Chicago, Indianapolis and Saint Louis Territories)

Lawrenceburg, Ind., POPULAR AUTO D. I. Exec: William Statlander. (275)

Richmond, Ind., JAMES AUTO D. I. (New Westville, O.). Exec: Milton Strauss, Frank Schwartz and Tri-States Booking Serv., Cincinnati 10, O. (400)

Vevay, Ind., ALPS D. I. Exec: Charles R. Scott. (400)

Kentucky

(NOTE: See also Indianapolis, Memphis and Saint Louis Territories)

Ashland, Ky., TRAIL D. I. Exec: Frank Nolan. (500)

Booneville, Ky., MOONLITE D. I. Exec: Robert R. Reynolds and Carl Barker. (150)

Burnside, Ky., LAKEVIEW D. I. Exec: O. G. Roaden, Loyall. (500)

Carrollton, Ky., RIVERVIEW D. I., Box 179. Exec: R. L. Gaines. (350)

Corbin, Ky., CORBIN D. I. Exec: Ray Mullins. (350)

Covington, Ky., DIXIE GARDENS D. I., Dixie Hwy. Exec: Willis Vance, and Theatre Owners Corp., Cincinnati 10, O. (700)

Cumberland, Ky., AUBURN D. I. Exec: A. L. P. Corder. (225)

Danville, Ky., STARLIGHT D. I. Exec: Joe Marshall. (396 and 84 Seats)

Dayton, Ky., RIVERVIEW D. I. Exec: W. X. Bressler. (400)

Elkhorn City, Ky., BREAKS D. I. (Praise). Exec: J. E. Belcher. (235)

Florence, Ky., FLORENCE D. I. Exec: Tom Hill. (600)

Frankfort, Ky., STARWAY D. I., P. O. Box 171. Exec: Morrow and Janecky, and Floyd Morrow. (450)

Georgetown, Ky., BLUE GLASS D. I., Rt. 25. Exec: Mark Cummins and Ben Cohen. (400)

Goody, Ky., GOODY AUTO D. I. (Williamson, W. Va.). Exec: H. Bank. (400)

Harlan, Ky., HARLAN D. I. Exec: George Combs, and Theatre Owners Corp., Cincinnati 10, Ohio. (300)

Harlan, Ky., WAYNE D. I. Exec: Dr. B. F. Wright, James and Hugh Martin, and William Wright. (600)

Hazard, Ky., GRANDVIEW D. I., Box 705. Exec: Eugene H. Combs, and Richard M. Johnson, Lincoln Hotel Bldg. (300)

Jackson, Ky., MEADOWVUE D. I., P. O. Box 135. Exec: John Robinson. (300)

Jenkins, Ky., CAVALIER D. I. Exec: Wm. Thalheimer and Roy Letsinger. (380)

Liberty, Ky., GREEN RIVER D. I. Exec: Ralph Cundiff. (175)

Manchester, Ky., FAMILY D. I. Exec: Frank Carnahan, M. C. Hughes, and John E. White. (220)

Middlesboro, Ky., REDA D. I. Exec: Don Reda. (400)

Monticello, Ky., STARLITE D. I. Exec: Carl Huff. (300)

Morehead, Ky., DRIVE IN. Exec: L. G. Conley. (—)

Mount Sterling, Ky., HIWAY D. I. Exec: Mt. Sterling Amuse. Co., and Nelson Ward, Tri-States Booking Serv., Cincinnati 10, O. (350)

Mount Sterling, Ky., JUDY D. I. Exec: Joe Poe, Judy Drive-In, Inc. (400)

Nicholasville, Ky., LEXINGTON D. I., R. R. #1. Exec: J. E. Head, V.P., J. B. Johnson Ent., Inc. (400)

Paintsville, Ky., CAIN D. I. Exec: W. T. Cain, Jr. (320)

Pikeville, Ky., PIKEVILLE D. I., Box 1251. Exec: Childers and Powell, and J. Bressler. (300)

Prestonburg, Ky., CLIFF D. I. Exec: Jack Absher. (350)

Richmond, Ky., REDA D. I. (Formerly Lake Carlisle). Exec: Don Reda. (400)

Somerset, Ky., FAMILY D. I., P. O. Box 151. Exec: Raymond L. Edwards. (400)

Stanford, Ky., DAVIS D. I., Route #4. Exec: H. C. Davis, and Theatre Owners Corp., Cincinnati 10, O. (200)

Whitesburg, Ky., ELINDA-ANN D. I. Exec: William W. Wright. (300 and 300 Seats)

Winchester, Ky., SKY-VUE D. I., 156 N. Upper. Exec: J. B. Johnson, and J. E. Head. (375)

Ohio

(NOTE: See also Cleveland Territory)

Aberdeen, O., RIVERVIEW D. I. Exec: John R. Poe. (350)

Allensburg, O., ROSELAWN AUTO D. I., Rt. 50. Exec: J. Henry Davidson, Assoc. Ths., Lynchburg. (300)

Amelia, O., STARLITE D. I. (Mt. Holly). Exec: Jerome Jackson. (400)

Athens, O., VALLEY D. I., P. O. Box 42. Exec: Frank Nolan. (408)

Belpre, O., BELPRE D. I., P. O. Box 241. Exec: Fred Clemens. (400)

Bridgeville, O., OLD TRAIL D. I. (Zanesville). Exec: C. E. Huprich, 1956 Normandie Dr., Zanesville, Roy Waller, and Tri-State Booking Serv., Cincinnati 10. (300)

Burlington, O., AUTO-IN. Exec: W. E. McCoy, Cheasapeake. (400)

Byesville, O., C AND B D. I. Exec: George Brown, Brown and Coines. (364)

Cambridge, O., CRUISE IN, Rt. 40 West. Exec: Si Francis, Jr. (350)

Celina, O., LAKE D. I. Exec: Chakeres Ct., Springfield. (300)

Chillicothe, O., DEL AR D. I., Box 58. Exec: Fred N. Robertson, and Jack Needham. (400)

Chillicothe, O., MOONLIGHT D. I., E. Main at Renick. Exec: B. Cook and E. Payne, and Jack Needham. (450)

Cincinnati, O., AUTO-IN, 500 Rosemont Ave. Exec: Jerome J. Kunz, and Theatre Owners Corp., Cincinnati 10. (400)

Cincinnati, O., TWIN D. I., Reading Rd. and Tennessee. Exec: Rube Shor, 1632 Central Pkwy. (1000 and 850 Seats)

Circleville, O., STARLITE D. I. Exec: Harley E. Bennett, 294 Cherry St., Chillicothe, and Jack Needham. (325)

Coal Grove, O., STARLITE D. I. Exec: Dr. W. E. Day, and Theatre Owners Corp., Cincinnati 10. (400)

Coalton, O., TOWN AND COUNTRY D. I., Route 75. Exec: Frank Nolan. (300)

Columbus, O., CCC AUTO D. I., 1395 Harrisburg Pike. Exec: F. Yassenoff, 319 E. Town St., and Harold Schwartz. (750)

Columbus, O., EAST MAIN D. I., 5000 E. Main St. Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Columbus, O., EAST SIDE D. I., 236 N. Roosevelt Ave. Exec: F. Yassenoff, 319 E. Town St., and Harold Schwartz. (750)

Columbus, O., FIFTH AVE. D. I., 400 W. 5th Ave. Exec: F. Yassenoff, 319 E. Town St. (675)

Columbus 12, O., LINDEN AIR D. I., 1126 King Ave. Exec: W. Queen, 2112 Washington Ave. (600)

Columbus, O., NATIONAL D. I., 3750 W. Broad St. Exec: F. Yassenoff, 319 E. Town St., Columbus 15. (750)

Columbus, O., RIVERSIDE D. I. (Dublin). Exec: F. Yassenoff, 319 E. Town St., and Harold Schwartz. (320)

Columbus, O., SCIOTO D. I., 3050 Riverside Dr. Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Columbus, O., SOUTH D. I. Exec: Milton Yassenoff. (750)

Columbus, O., WEST BROAD D. I., 4050 Broad St. Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Dayton, O., BELMONT AUTO D. I., R. R. #12, Box 57, Shakertown Pike. Exec: Max Milbauer. (700)

Dayton, O., DAYTON D. I., 2700 Valley Pike. Exec: M. J. Gordon. (500)

Dayton, O., MIAMI D. I., 6500 W. 3rd St. Exec: M. J. Gordon. (690)

Dayton, O., SALEM D. I., 3815 Salem Ave. Exec: Fred Krimm. (400)

Dayton, O., SHERWOOD D. I., 5501 W. 3rd. Exec: Sam and Allen Levine. (600)

Dayton, O., SKYLINE D. I., P. O. Box 25, Stn. D. Exec: W. C. Walters, Pres., Skyline, Inc. (750)

Dent, O., DENT AUTO D. I., Harrison Ave. Exec: Jerome J. Kunz, and Theatre Owners Corp., Cincinnati 10. (500)

Eaton, O., CRUISE-IN. Exec: L. Clemmer. (400)

Excello, O., DIXIE CRUISE-IN (Middletown). Exec: Rube Shor, 1632 Central Pkwy., Cincinnati. (400)

Fairborn, O., SKYBORN D. I., P. O. Box 225, Haddix Rd. Exec: Del Kinsel. (450)

Forestville, O., FOREST D. I., 7940 Beechmont. Exec: R. Shor, 1632 Central Pkwy., Cincinnati. (600)

Frederick, O., MILLERS GROVE D. I. (West Milton), R.F.D. #6. Exec: Miller Bros. (444)

Gallipolis, O., KANAUGA D. I. Exec: Harry Wheeler. (400)

Glendale, O., ACME AUTO D. I., Hamilton-Carthage Rd. Exec: Marc Cummins. (400)

Greenville, O., SPEEDWAY AUTO D. I. Exec: Fred Krimm. (300)

Hamilton, O., ACME AUTO D. I. (Formerly Outdoor), Old Oxford Rd. Exec: Marc Cummins and Ben Cohen. (400)

Hamilton, O., RAMONA D. I. Exec: George Turlukis. (900)

Jackson, O., GROVE AUTO D. I. Exec: Harold Stegmiller. (140)

Lancaster, O., CITY D. I. Exec: Frank Nolan. (480)

Lancaster, O., SKYVIEW D. I., E. Main Pike. Exec: Carlos Crumm and E. Pulliam. (400)

Lebanon, O., OLD FORT D. I. Exec: J. H. Davidson, Assoc. Ths. (314)

Lucasville, O., SCIOTO BREEZE D. I. Exec: R. O. Lewis. (350)

Marietta, O., STARLITE D. I., Box 514. Exec: J. B. Steadman. (604)

Miamisburg, O., CRUISE-IN, S. Dixie Hwy. Exec: L. Clemmer. (350)

Milford, O., MOTOUR-IN. Chillicothe Pike, Box 236. Exec: A. N. Fessel, and Theatre Owners Corp., Cincinnati 10. (600)

Montgomery, O. MONTGOMERY D. I., Montgomery Pike. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Theatre Owners Corp., Cincinnati 10. (600)

Mount Healthy, O., MT. HEALTHY D. I. (Cincinnati), 900 Compton. Exec: Lou Wiethe. (575)

Newark, O., VALLEY D. I., P. O. Box 790. Exec: Floyd Price and Tri-State Booking Serv., Cincinnati 10. (400)

New Chicago, O., SUNSET CRUISE-IN (Dayton), Germantown Pike. Exec: J. E. Crissman. (450)

Piqua, O., PIQUA D. I., R. R. 3, Box 58A. Exec: Fred Krimm. (400)

Roseville, O., STARLIT D. I. (Six Mile Turn). Exec: Dorman Law. (340)

Saint Henry, O., STARLITE D. I. (Cassella). Exec: Feltz Bros. (300)

Sidney, O., SIDNEY D. I. Exec: V. Schwartz, and Tri-State Booking Serv., Cincinnati 10. (350)

South Zanesville, O., SKYWAY D. I., R. D. #1. Exec: Roy Waller, C. E. Huprich, and Tri-State Booking Serv., Cincinnati, 10. (650)

Springfield, O., MELODY CRUISE-IN, National Hwy., E. Rt. 40. Exec: Chakeres Ct. (700)

Springfield, O., SKYHIGH D. I. Exec: Sam Levin. (400)

Springfield, O., STARDUST D. I. Exec: Sam Levin. (550)

Troy, O., TROY DIXIE D. I. Exec: Moe and Elizabeth Potasky. (400)

Urbana, O., SALEM AUTO D. I. Exec: Guy Spangler, and Theatre Owners Corp., Cincinnati 10. (350)

Wapakoneta, O., MIDWAY D. I. Exec: V. Schwartz. (300)

Washington Court House, O., CCC D. I. (Jasper Mills). Exec: J. Henry Davidson, Assoc. Ths., Lynchburg. (450)

Waverly, O., ATOMIC D. I. Exec: J. H. Davidson. (400)

Waverly, O., H AND S D. I. Exec: Hofheimer-Sugarman. (450)

Wheelersburg, O., DRIVE IN, Rt. 52. Exec: John L. Carey. (500)

Wilmington, O., WILMINGTON D. I. Exec: Chakeres Ct., Springfield. (500)

Woodlawn, O., WOODLAWN D. I. (Cincinnati), 10540 Springfield Pike. Exec: Nat Kaplan. (550)

Worthington, O., NORTH-HI D. I. (Columbus). Exec: A. Sugarman and Lee Hofheimer. (700)

Xenia, O., OLD TOWN AUTO D. I. Exec: Marc Cummins and Ben Cohen. (425)

Xenia, O., XENIA AUTO D. I. Exec: Tri-State Booking Serv., Cincinnati 10. (400)

Zanesville, O., MAPLE AUTO D. I., 2800 Maple Ave. Exec: Erma Boedcher, and John Woodward. (550)

West Virginia

(NOTE: See also Pittsburgh and Washington Territories)

Beckley, W. Va., BECKLEY OPEN AIR D. I. Exec: F. Clemens. (350)

Bluefield, W. Va., SKYWAY D. I. Exec: S. J. Switow, M. Switow and Sons Ent., Louisville, Ky. (600)

Bolair, W. Va., WEBSTER D. I. Exec: Arden Richards. (200)

Branchland, W. Va., GUYAN D. I. (Formerly Lincoln). Exec: Mrs. D. Brown and R. Phelan. (240)

Ceredo, W. Va., CEREDO D. I. Exec: Abe Hyman and I. Silverstein. (600)

Charleston, W. Va., OWENS D. I. Exec: Fred Helwig. (450)

Crab Orchard, W. Va., CRAB ORCHARD D. I. (Beckley), P. O. R.F.D., Harvey. Exec: E. R. Harvey, and Theatre Owners Corp., Cincinnati 10, O. (400)

Craigsville, W. Va., CRAIGSVILLE D. I., Box 407. Exec: Arden A. Richards. (225)

Cucumber, W. Va., CUCUMBER D. I. Exec: J. L. Koger. (110)

Elkview, W. Va., ELKVIEW D. I. Exec: Ray Phelan, Elk Valley Ths., Clendenin. (480)

Glen Jean, W. Va., MOUNTAIN AIR D. I. Exec: E. J. Buffa. (350)

Hines, W. Va., STARLITE D. I. Exec: Thomas R. Dollinger. (200)

Hinton, W. Va., GREENBRIER D. I. Exec: Mrs. R. D. Williams. (175)

Hugheston, W. Va., ARENA D. I. Exec: John Tabit. (375)

Huntington, W. Va., EAST OUT DOOR D. I. Exec: A. Hyman, J. S. Silverstein. (1077)

Iaeger, W. Va., IAEGER D. I. Exec: Grny Barker. (142)

Lewisburg, W. Va., WALNUT HILL D. I., Route 219. Exec: D. Wenkley. (400)

Logan, W. Va., MONITOR D. I. Exec: Mrs. F. L. MacLain, Monitor Drive-In, Inc., and Tri-State Booking Serv., Cincinnati 10, O. (500)

Madison, W. Va., MADISON D. I. Exec: W. B. Rose, and Gray Barker. (300)

Man, W. Va., MAN D. I. Exec: A. W. Cook. (400)

Mason City, W. Va., MASON CITY D. I. Exec: Ross Filson. (500)

Nettie, W. Va., NETTIE D. I. (Quinwood). Exec: C. L. McClung. (210)

Oak Hill, W. Va., SKYLINE D. I. Exec: J. C. Newbold. (480)

Parkersburg, W. Va., MUR D. I., 3930 Murdoch Ave. Exec: Jur Ths. (550)

Parkersburg, W. Va., STARLITE D. I., Pike St. and Gibson Rd. Exec: Jur Ths. (600)

Parkersburg, W. Va., JUNGLE D. I., Rt. 1. Exec: Carl Westbrook. (---)

Pineville, W. Va., PINEVILLE D. I. Exec: Charles Cassinelli. (300)

Rand, W. Va., TRAIL D. I. Exec: R. Shor, F. Price, and E. Custer, and Tri-State Booking Serv., Cincinnati 10, O. (600)

Rupert, W. Va., SUNSET AUTO D. I. Exec: R. A. Callison, and Theatre Owners Corp., Cincinnati 10, O. (290)

Saint Albans, W. Va., VALLEY D. I., Winfield Rd. Exec: R. Show, F. Price, and E. Custer, and Tri-State Booking Serv., Cincinnati 10, O. (600)

Spencer, W. Va., AIRPORT D. I. Exec: Joseph Giboney. (200)

Waverly, W. Va., MIDWAY D. I. Exec: R. T. Bunting and S. L. Matheney. (200)

Welch, W. Va., STARLAND D. I. Exec: Lloyd Rogers. (400)

Whitesville, W. Va., JUR D. I. (Formerly Whitesville). Exec: Jur Th. Ct. (400)

CLEVELAND TERRITORY

Ohio

(NOTE: See also Cincinnati Territory)

Akron, O., ASCOT D. I. (Cuyhoga Falls), Rt. 8, 511 Tuscaloosa Ave. Exec: Edward J. Rabb. (400)

Akron, O., GALA D. I. (Sawyerwood), 224 E. Waterloo Dr. Exec: James Ramicone, Box 239, R. D. 2, Akron 12. (600)

Alliance, O., PARK D. I., Rt. 62, E. State Rd. Exec: M. Barck, 1529 Glenmont Ave., Cleveland. (430)

Andover, O., SHANE D. I. Exec: Frank and Lois Slavik, Mu Mac Th., Middlefield. (200)

Arlington, O., AMANDA AUTO D. I., Rt. 1. Exec: R. Dyer, R. D. #1, Box 74-B. (250)

Ashtabula, O., SKYWAY D. I. (Geneva), R. D. #2 Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (350)

Barberton, O., MAGIC CITY D. I., R. D. #7. Exec: Vincent Lauter and Lou Ratener. (400)

Barberton, O., STARLIGHT D. I. (Akron). 511 W. Tuscaloosa. Exec: Edward J. Rabb. (350)

Barnesville, O., LEATHERWOOD D. I. Exec: V. Grindstaff and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Belle Center, O., BELLE CENTER D. I. Exec: Dale Elleman. (370)

Bellefontaine, O., DRIVE IN (Formerly Belle). Exec: Dale Elleman. (370)

Blaine, O., SUPER 40 D. I., Route 40. Exec: C. G. Veins, Capitol Th. Bellaire. (450)

Bryan, O., HUB D. I. Exec: John P. Hagerman. (418)

Bucyrus, O., TRI CITY D. I., Hwys. 30 and 58, P. O. Box 6. Exec: Olen Martin, Jr. (660)

Cadiz, O., CADIZ D. I. Exec: T. Wilson and R. Comoher, Piedmont. (300)

Canton, O., EAST 30th OUTDOOR D. I. Exec: George Delis. (800)

Chardon, O., HAZELWOOD D. I. Exec: V. A. Nelson, So. Maple Ave., Orwell. (275)

Cleveland, O., AUTO D. I. (Brookpark), 11211 Brookpark Rd. Exec: Sam Haas, and Joe Goldstein. (700)

Cleveland, O., EAST SIDE D. I. (North Randall), Hwy. 8, Northfield Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (600)

Cleveland, O., MILES D. I., 19001 Miles Ave. Exec: Ohio Drive-In Co., and Joe Goldstein. (1000)

Cleveland, O., WEST SIDE D. I. (Brookpark), Brookpark and Riverside Drive. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (600)

Copley, O., MONTROSE D. I. (Akron R. D. 7, Box 309), #18 Medina-Akron Rd. Exec: Lou Ratener and Lawrence Tyrell, 185 Avondale Rd., Akron. (500)

Coshocton, O., SKYWAY D. I. Exec: Frank Gilfilen, Robert Phillips, and H. Horstemeier, 2108 Payne Ave., Cleveland. (225)

Creston, O., CRESTON D. I., Route 3. Exec: M. R. Martin, 950 Delta Ave., Akron. (250)

Defiance, O., DEFIANCE D. I., Rt. 66, Box 33. Exec: Mrs. E. Logan, and Cooperative Ths. of of Ohio, 2108 Payne Ave., Cleveland. (500)

Delaware, O., KINGMAN D. I. Exec: George Kaler, P. O. Box 111, and H. Horstemeier, 2108 Payne Ave., Cleveland. (520)

Delphos, O., VAN DEL D. I., Hwy. 30. Exec: Jack Armstrong, Carl H. Schwyn Ths. Ct., Bowling Green. (500)

East Lake, O., EAST LAKE D. I. Exec., Comnnity Ths., 500 Great Lakes Bldg., 800 Vincent Ave., Cleveland. (950)

East Liverpool, O., SKYVIEW AUTO D. I., Hwy. 170, Box 121. Exec: Lawrence Black, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

East Liverpool, O., SUPER 30 D. I. Exec. J. G. Osborne, West Va. Theatrical Ents., 1015 Main St., Wheeling, W. Va. (600)

East Palestine, O., MIDWAY D. I. Exec George Manos, Manos Amuse. Co., 202 Fourth Ave., Toronto. (500)

Elyria, O., TOWER D. I., 2301 Lake Ave. Exec: Mrs. Helen Pentz, 1806 E. Erie, Logan O., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Findlay, O., FINDLAY D. I., W. Sandusky Rd. Exec: J. Knight, 509 E. Main St., Columbus. (500)

Fostoria, O., STARLITE D. I., U. S. 23 South. Exec: Virgil Pfau and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (492)

Fremont, O., FREMONT D. I., 122 S. Wilson Ave. Exec: Mosser Bros., 122 S. Wilson St. and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Harrisburg, O., MID CITY D. I., R. D. Louisville. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (635)

Independence, O., CLOVERLEAF D. I., 3600 Ridge Rd. Exec: Al Ochs. (700)

Kenton, O., HI ROAD D. I., #68, P. O. Box 72. Exec: Robert W. Kipp. (325)

Kingsville, O., MIDWAY AUTO D. I. Exec: Foster Hathaway, Ritz Ths., Struthers, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Lima, O., GLORIA D. I., R. D. #1. Exec: H. Shock. (300)

Lima, O., LIMA D. I., 25, R. D. #1. Exec: H. Shock. (300)

Lima, O., SHARON D. I., R. D. #1. Exec: H. Shock. (450)

Lima, O., SPRINGBROOK D. I. Exec. Jack Armstrong, Carl H. Schwyn Ths. Ct., Bowling Green. (700)

Lorain, O., LORAIN D. I., #2. Exec: Wilbur and A. E. Ptak, 6063 Pearl Rd., Parma Heights, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Madison, O., SKYWAY D. I., #20. Exec. Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (300)

Mansfield, O., SUNSET D. I. (Formerly Mansfield-Galion), Rt. 30, R. D. #6. Exec: Harold Nussbaum, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Mansfield, O., MIDWAY D. I., #42 N. Exec: Al Ochs. (350)

Mansfield, O., SPRINGMILL D. I., R. D. #1. Exec: M. Mosser, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Marion, O., NORTH D. I., Hwy. 23. Exec. Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Marion, O., SOUTH D. I. Exec: Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (630)

Massillon, O., STARK D. I., 2416 Lincoln Way E. Exec: W. N. Skirball, Skirball Bros., Keith Bldg., Cleveland. (600)

Maumee, O., JESSE JAMES D. I. Exec: E. Walters, Jack Armstrong and Harold James. (990)

Maumee, O., MAUMEE D. I., 20. Exec T. F. Whyte, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (800)

Mentor, O., MENTOR D. I., #20. Exec Shulman and Schwartz, Cleveland. (400)

Millbury, O., WOODVILLE D. I., #120. Exec: A. M. DeHaven, River Rd., U. S. #24, Waterville (350)

Morristown, O., MORRISTOWN D. I., #40. Exec: H. Mendelson, Cadiz Dept. Store, Cadiz. (354)

Mount Vernon, O., KNOX AUTO D. I., #13, Box 31. Exec: R. Sturgis, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Newcomerstown, O., STARLIGHT D. I., Rt. 36. Exec: George Manos, Manos Amuse. Co., 202 Fourth St., Toronto. (300)

New Philadelphia, O., TWILIGHT D. I. (Goshen Township), Hwy. 250, Box 111, Urichsville. Exec: A. K. Veach, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (225)

North Canton, O., NORTH CANTON D. I. (Formerly Auto), Rt. 3, Cleveland Ave. N.W. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (538)

Northfield, O., NORTHFIELD STAR D. I., Rt. 8. Exec: Eugene E. Marunski, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Norwalk, O., STARVIEW D. I., #20. Exec: Lou Rntener, 500 Film Bldg., Cleveland. (425)

Oberlin, O., CARLISLE D. I. (Elyria), #20. P.O. Box 639. Exec: John Tender, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Ottawa, O., LITTLE FLOWER D. I. Exec: Al Boudouris, Toledo. (300)

Painesville, O., BELVEDERE D. I. Exec: John Leone, 444 N. State. (300)

Portage, O., PORTAGE SKYLIGHT D. I., #25. Exec: Jack Armstrong, Carl H. Schwyn Ths. Ct., Bowling Green. (500)

Port Clinton, O., OTTAWA D. I. Exec: C. E. Maracek, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Plymouth, O., SUNSET D. I. Exec: Ed Ramsey. (400)

Ravenna, O., MIDWAY D. I. Exec: Paul Vogel, Wellsville. (525)

Rayland, O., RIVERSIDE D. I., #7. Exec: J. B. Gardner. (390)

Russells Point, O., EAST LAKE D. I. Exec: Jack Gutilla, Box 507, Indian Lake. (500)

Saint Clairsville, O., SHIA'S D. I., #40. Exec: S. D. Shia, Old Trail Th., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Salem, O., SALEM D. I. Exec: Vogel Bros., Wellsville. (456)

Sandusky, O., SANDUSKY D. I., #2. Exec: Earl Seitz, Seitz Amuse. Co., State Th. (500)

Steubenville, O., FAMILY D. I., #7. Toronto Rd. Exec: Marvin O. White, American Amuse. Co. (450)

Steubenville, O., SUNSET AUTO D. I., Sunset Blvd. Ext. Exec: Marvin O. White, American Amuse. Co. (500)

Strasburg, O., LYNN D. I., Rt. 250, Box 187. Exec: Roy McCombe and W. B. Franklin, and H. Horstemeier, 2108 Payne Ave., Cleveland. (400)

Talmadge, O., EAST D. I., Exec: R. Postma, Rialto Th., Akron, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (680)

Tiffin, O., TIFFIN D. I., R. R. #3. Exec: Brinkman and Shults, and H. Horstemeier, 2108 Payne Ave., Cleveland. (275)

Toledo, O., PARKSIDE D. I., 5855 Telegraph Rd. Exec: J. Dempsey, 4120 Bowen Rd., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (622)

Toledo, O., TELEGRAPH D. I., Telegraph and Alexis. Exec: J. Dempsey, 4120 Bowen Rd., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (714)

Toledo, O., TOLEDO D. I., #223, R. R. #8. Exec: A. E. Gardon, and Joe Goldstein. (700)

Upper Sandusky, O., TRAIL D. I., Route 23. Exec: Leo Jones. (300)

Van Wert, O., LINCOLN D. I., R. R. #4. Exec: H. Shock. (434)

Wadsworth, O., BLUE SKY D. I., 224. Exec: E. Seitz, Box 550, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (200)

Warren, O., ELM ROAD D. I., Route 422. Exec: Stephen Hreno, 79 North Rd., Niles, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Warren, O., HOWLAND D. I. Exec: D. Albright, 442 Molane Ave., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (520)

Warren, O., SKYWAY D. I. Exec: Ohio Th. Service, and H. Horstemeier, 2108 Payne Ave., Cleveland. (300)

Warren, O., SUPER 45 D. I. Exec: George Manos, Manos Amuse. Co., 202 Fourth St., Toronto. (620)

Wauseon, O., STAR AUTO D. I. Exec: D. Lee McLain. (300)

Wickliffe, O., EUCLID OUTDOOR D. I., 28737 Euclid Ave. Exec: Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (700)

Wooster, O., SKYLINE D. I., #30. Exec: George Settos, Settos Ths., 40 W. Ohio St., Indianapolis, Ind. (276)

Youngstown, O., NORTH SIDE D. I., #90. Exec: Meyer Fine, Associnted Ths. Ct., 21st and Payne Ave., Cleveland, and Newport Amuse. Co. (500)

Youngstown, O., SKYHIGH D. I. (Lowellville), R. D. #1. Exec: Foster Hathnway, Ritz Th., Struthers, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (620)

Youngstown, O., SOUTH SIDE D. I., 15 Illinois Ave. Exec: Meyer Fine, Associnted Ths. Ct., 21st and Payne Ave., Cleveland. (500)

Youngstown, O., WEST SIDE D. I., 4442 Southern Blvd. Exec: Meyer Fine, Associnted Ths. Ct., 21st and Payne Ave., Cleveland. (450)

DALLAS TERRITORY

Louisiana

(NOTE: See also New Orleans Territory)

Springhill, La., RANCHO D. I. Exec: J. R. Euler, and Barton McLendon, Tri-States Th. Ct., 2008A Jackson St., Dallas, Tex. (400)

Vivian, La., GAY D. I. Exec: W. Bagwell. (200)

Vivian, La., WAKEA D. I. Exec: L. W. Watts, W. and K. Ths., Box 347, Oil City. (200)

New Mexico

(NOTE: See also Denver Territory)

Alamogordo, N. M., STARLITE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (300)

Belen, N. M., ZIA D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Carlsbad, N. M., CORRAL D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (400)

Carlsbad, N. M., FIESTA D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroloum Bldg., Dallas, Tex. (450)

Clovis, N. M., LA FONDA D. I. Exec: W. O. Bearden, Sunshine Th. (598)

Clovis, N. M., FOUR LANE D. I. Exec: John Whipple and Myron Finkelstein. (444)

Clovis, N. M., YUCCA D. I., Hwy. 70. Exec: R. I. Payne, Theatre Entrs., Inc., Petroleum Bldg., Dallas, Tex. (350)

Deming, N. M., MIMBRES D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (200)

Eunice, N. M., STAR D. I. Exec: O. O. Knotts. (400)

Gallup, N. M., YUCCA D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (249)

Hobbs, N. M., EAGLE D. I., P. O. Box 937. Exec: E. L. Williamson. (500)

Hobbs, N. M., SKYVIEW D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (350)

Jal, N. M., PANTHER D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Lovington, N. M., YUCCA D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (201)

Portales, N. M., VARSITY D. I., Elinda Hwy. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Roswell, N. M., BALL-O-JAK D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Roswell, N. M., JINGLE BOB D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Roswell, N. M., STARLITE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Ruidoso, N. M., MOUNTAIN VIEW D. I. Exec: William Eiland. (250)

Tatum, N. M., CAYOTE D. I. Exec: Estes Burgamy. (250)

Oklahoma

(NOTE: See also Oklahoma City Territory)

Durant, Okla., SHIP D. I. Exec: Lillian B. Lutzer, Savage Th. (500)

Durant, Okla., SKY VUE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

Idabel, Okla., RANCHO D. I. Exec: Barton R. McLendon, Tri-State Ths. Ct., 2008A Jackson St., Dallas, Tex. (200)

McAlester, Okla., HIGHWAY 270 D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

McAlester, Okla., SKYVU D. I. Exec: J. D. Lankister. (400)

Muskogee, Okla., HI WAY 64 D. I., Box 1554. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (503)

Muskogee, Okla., P AND M D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

Texas

(NOTE: See also Denver and Oklahoma City Territories)

Abilene, Tex., CRESCENT D. I. Exec: Mrs. O. M. Kirkeby. (400)

Abilene, Tex., ELMWOOD D. I., Hwy. 158. Exec: Mrs. R. N. Likens, Broadway Th. (300)

Abilene, Tex., KEY CITY D. I. Exec: Maurice S. Cole. (600 and 300 Seats)

Abilene, Tex., PARK D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (475)

Abilene, Tex., TOWER D. I., Rt. 3, Box 61. Exec: Mrs. O. M. Kirkeby. (400)

Alice, Tex., BUCKHORN D. I., Hwy. 44, P. O. Box 1126. Exec: H. C. Gunter. (300)

Alpine, Tex., LOBO D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Alpine, Tex., TWIN PEAK D. I. Exec: Joseph T. Davidson. (300)

Alvin, Tex., ALVIN D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (350)

Amarillo, Tex., PALO DURO D. I., Canyon Hwy. and Georgia, Box 1212. Exec: Charles W. Weisenburg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (576 and 100 Seats)

Amarillo, Tex., SKYWAY D. I. Exec: Lester R. Dollison, Dollison and Harrington, Rex Th. (500)

Amarillo, Tex., SUNSET D. I., West of City. Exec: W. O. Bearden, P. O. Box 748. (400)

Amarillo, Tex., TASCOSA D. I. Exec: W. O. Bearden, P. O. Box 748. (600)

Amarillo, Tex., TRAIL D. I., Hwy. 66. Exec: W. O. Bearden, P. O. Box 748. (400)

Amarillo, Tex., TWIN D. I. Exec: Charles Weisenburg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (1000)

Amherst, Tex., 84 D. I. Exec: C. Roy Stevens. (175)

Andrews, Tex., MUSTANG D. I. Exec: Wallace Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (260)

Angleton, Tex., ROUND-UP D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (350)

Anson, Tex., TWILITE D. I., Box 472. Exec: Will Pence, Lyric Th. (300)

Aransas Pass, Tex., TRAIL D. I. Exec: Chester Kyle. (300)

Aransas Pass, Tex., TARPON D. I. Exec: C. L. Walker and E. F. Falgont. (350)

Argyle, Tex., TWIN VUE D. I. (Formerly Colonial), Hwy. 377, P. O. Box 44. Exec: George Franklin. (350)

Arlington, Tex., ARLINGTON D. I. Exec: Charles W. Weisenburg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (600)

Athens, Tex., STAR VUE D. I. (Formerly Athens). Exec: Owen Killingsworth. (250)

Atlanta, Tex., RANCHO D. I. Exec: Barton McLendon, Tri-States Th. Ct., 2008A Jackson St., Dallas. (200)

Austin, Tex., BURNETT D. I., Box 332. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Austin, Tex., CHIEF D. I., 5601 Dallas Hwy., Box 332. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (814)

Austin, Tex., DELWOOD D. I. Exec: Eddie Joseph, Yank Th. (600)

Austin, Tex., MONTOPOLIS D. I., Airport Blvd. Exec: Eddie Joseph, Yank Th. (600)

Austin, Tex., NORTH AUSTIN D. I., 6714 Dallas Hwy., P. O. Box 1015. Exec: Eddie Joseph, Yank Th. (250)

Austin, Tex., SOUTH AUSTIN D. I., 3900 S Congress. Exec: Eddie Joseph, Yank Th. (400)

Baird, Tex., ROUND-UP D. I. Exec: Frank Gardner. (200)

Ballinger, Tex., HILLCREST D. I. Exec: Scales and Scales (400)

Ballinger, Tex., HORSESHOE D. I. Exec: R. T. Hall. (300)

Bandera, Tex., TRAIL D. I. Exec: Charles Knauf. (200)

Barksdale, Tex., DON JUAN D. I. Exec: Mrs. E. Wenthers and D. Gryson. (185)

Bay City, Tex., BAY D. I. Exec: Robin Frels, Frels Ths., Victoria. (326 and 150 Seats)

Baytown, Tex., DECKER D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (408)

Beaumont, Tex., CIRCLE D. I., P. O. Box 2502. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (550)

Beaumont, Tex., PYRAMID D. I., P. O. Box 3228. Exec: Millard Jones. (600)

Beaumont, Tex., SOUTH PARK D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (600)

Beeville, Tex., BRONCO D. I., Box 966. Exec: A. M. Gaines. (375)

Belton, Tex., HARDIE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (250)

Big Lake, Tex., REAGAN D. I. Exec: Mrs. O. M. Kirkeby. (300)

Big Lake, Tex., SHOOTING STAR D. I. Exec: Noble Holt, and In-Dex. (333)

Big Spring, Tex., JET D. I., San Angelo Hwy. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (500)

Big Spring, Tex., TERRACE D. I., Hwy. 84. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Blackwell, Tex., RANEY D. I., Box 35. Exec: Henry C. Raney. (100)

Bonham, Tex., BONHAM D. I. Exec: Cole Ths. (302 and 54 Seats)

Bowie, Tex., TRAIL D. I. Exec: C. E. Campbell. (300)

Brady, Tex., SCENIC D. I. Exec: Mrs. O. M. Kirkeby. (300)

Breckenridge, Tex., CORRAL D. I. Exec: William Creagh and Paul Klatt. (330)

Breckenridge, Tex., TRAIL D. I., P. O. Box 289. Exec: B. E. Garner. (300)

Brenham, Tex., STARLITE D. I. Exec: C. H. Schroeder. (200)

Brownfield, Tex., RIG D. I. Exec: Mrs. W. T. Howzie, Regal Th. (300)

Brownfield, Tex., RUSTIC D. I., Route 18. Exec: Mrs. W. T. Howzie, Regal Th. (500)

Brownsville, Tex., CHARRO D. I., 2340 Boca Chica Hwy., Box 1452. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (548)

Brownsville, Tex., STAR D. I., Hwy. 77. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (370)

Brownwood, Tex., CAMP BOWIE D. I. Exec: J. Needham. (356)

Brownwood, Tex., SUNSET D. I., Hwy. 84, P. O. Box 564. Exec: F. S. Schwab and Henry Lucht. (300)

Bryan, Tex., SKYWAY D. I., Hwy. 6. Exec: Jack A. Farr. (500)

Burkburnett, Tex., TEX-OK D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (295)

Caldwell, Tex., CIRCLE D. I. Exec: Mrs. C. W. Matson. (300)

Cameron, Tex., 77 D. I. Exec: Woodrow Good and George Clements. (300)

Carrizo Springs, Tex., WINTER GARDEN D. I. Exec: Andrew Majek. (300)

Carthage, Tex., SMITH D. I. Exec: Bob Williams. (400)

Cedar Bayou, Tex., CEDAR D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (500)

Center, Tex., APACHE D. I. Exec: George Smith. (500)

Childress, Tex., CAR-VUE D. I. Exec: Phillips and Layton. (350)

Cisco, Tex., JOY D. I. Exec: Joy N. Houck, Joy Ths., Inc., % Strand, Dallas. (250)

Clarksville, Tex., RED RIVER D. I. Exec: Englebrecht and Wolfe, and R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Clarksville, Tex., REX D. I., Box 43. Exec: J. V. Kunkel and H. L. Caldwell. (250)

Cleburne, Tex., CHIEF D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Clute, Tex., SURF D. I. Exec: J. B. Arthur. (600)

Coleman, Tex., COLE'ANNA D. I. Exec: R. Duus, 303 Neuces St. (400)

Coleman, Tex., OAK D. I., Hwy. 84. Exec: R. Duus, 303 Neuces St. (250)

College Station, Tex., CIRCLE D. I. Exec: A. P. Boyette. (400 and 300 Seats)

Colorado City, Tex., LONE WOLF D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Colorado City, Tex., TEXAS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Colorado City, Tex., WESTERNER D. I. Exec: H. R. Barker, Jr. (300)

Comanche, Tex., SUN D. I. Exec: Harold Flemins and Jack Arthur. (250)

Commerce, Tex., NEW D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Conroe, Tex., HI-Y D. I. Exec: Charles Tigner. (300)

Copperas Cove, Tex., JOY D. I. Exec: J. L. Lightfoot. (260)

Corpus Christi, Tex., BOULEVARD D. I., Lexington Blvd. Exec: C. A. Richter, Southwest Ths., Box 2270. (300)

Corpus Christi, Tex., BUCCANEER D. I. Exec: Arnulfo Gonzales. (500)

Corpus Christi, Tex., CORPUS D. I. Exec: C. A. Richter, Southwest Ths., Box 2270. (700)

Corpus Christi, Tex., GULF D. I., 4044 S. Port Ave. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Corpus Christi, Tex., OSAGE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (650)

Corpus Christi, Tex., SURF D. I. Exec: Johnny Blocker. (600)

Corpus Christi, Tex., TWIN PALMS D. I. Exec: Johnny Blocker. (1000)

Corsicana, Tex., HILLSIDE D. I., P. O. Box 303. Exec: Sidney Miller. (400)

Corsicana, Tex., NAVARRO D. I., Hwy. 287. Exec: B. L. Hagle and Cliff Turner. (304)

Crane, Tex., DERRICK D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (250)

Crockett, Tex., RIO D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Cuero, Tex., CUERO D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Dallas, Tex., BIG D. I. Exec: Phil Isley Ths., 2009½ Jackson St. (754)

Dallas, Tex., BUCKNER BLVD. D. I., Rt. 4, Box 235. Exec: Claude Ezell and Assoc., 2031 Jackson St. (660)

Dallas, Tex., CHALK HILL D. I., 4501 W. Davis. Exec: Claude Ezell and Assoc., 2031 Jackson St. (650)

Dallas, Tex., CINDERELLA D. I., 4601 S. Lamar. Exec: V. H. Post. (900)

Dallas, Tex., DENTON RD. D. I. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (850)

Dallas, Tex., GARLAND RD. D. I. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (660)

Dallas, Tex., HAMPTON RD. D. I., 2833 S. Hampton Rd. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (750)

Dallas, Tex., HI-VUE D. I., 5525 S. Beckley. Exec: R. E. Moran. (500)

Dallas, Tex., JEFFERSON D. I. Exec: Harold J. Gibbons. (637)

Dallas, Tex., KAUFMAN PIKE D. I., 7041 - 2nd Ave. Exec: Charles W. Weisenburg, W. F. W. Ths., Inc., 2013½ Young St. (600)

Dallas, Tex., LONE STAR D. I. Exec: James F. Riggs. (750)

Dallas, Tex., NORTHWEST HI-WAY D. I. Exec: Claude Ezell and Assoc., 2031 Jackson St. (552)

Dallas, Tex., SAMUEL'S BLVD. D. I. Exec: James F. Riggs. (425)

Dallas, Tex., SOUTH LOOP D. I., 3016 Ledbetter Dr. Exec: Brooks Th., Inc. (675)

Dallas, Tex., STARLIGHT D. I. Exec: E. Bowen. (400)

Decatur, Tex., SUNSET D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (250)

De Leon, Tex., WEEPING OAK D. I. Exec: Jack Scales. (300)

Del Rio, Tex., CENIZA D. I. Exec: Rowley United Ths., 314 S. Harwood St., Dallas. (400)

Del Rio, Tex., GAY NINETIES D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Denton, Tex., CO-ED D. I. Exec: Jerry B. Stout and Jake Lutzer. (500 and 450 Seats)

Denton, Tex., EL RANCHO D. I. Exec: Lester R. Dollison. (400)

Denver City, Tex., PIONEER D. I. Exec: J. C. Capps. (150)

Devine, Tex., MEDINA VALLEY D. I., Box 494. Exec: R. B. Carpenter. (340)

Dublin, Tex., HI-VUE D. I. Exec: J. Blevins. (250)

Eagle Pass, Tex., EAGLE D. I., P. O. Box 459, Hwy. 85. Exec: E. L. Walter. (575)

Eden, Tex., EDEN D. I. Exec: J. T. Jackson. (200)

El Campo, Tex., RICE D. I. Exec: Rubin Frels, Frels Ths., Victoria. (350)

El Dorado, Tex., EAGLE D. I. Exec: Delbert Edminston. (250)

Electra, Tex., HOME D. I., Hwy. 387. Exec: Martha McSpadden. (300)

REPRESENTING A $160,000 investment in showmanship, the No. 1 Drive-In, Daytona Beach, Fla., has combined an ultra-modern neighborhood theatre and a 651 car outdoor theatre with excellent results.

El Paso, Tex., BORDERTOWN D. I. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (900)

El Paso, Tex., CACTUS D. I. Exec: Bernie Swiney. (300)

El Paso, Tex., DEL NORTE D. I., Hwy. 80, Newman Rd. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (750)

El Paso, Tex., EL PASO D. I., Hwy. 290, Chelsea Dr. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (700)

El Paso, Tex., FIESTA D. I., P. O. Box 172. Exec: W. O. Beardon and J. B. Beeson. (500)

El Paso, Tex., NORTH LOOP D. I. Exec: Lester R. Dollison, Dollison and Harrington. (300)

El Paso, Tex., TRAIL D. I., Rt. 2, Box 449. Exec: I., M. Bernstein. (250)

Elsa, Tex., SKYVIEW D. I. Exec: J. T. Archer. (300)

Ennis, Tex., VILLAGE D. I. Exec: T. L. Ritchie, Atlanta. (250)

Escobares, Tex., RAU CON D. I. Exec: Raul Pena S. R. (200)

Fabens, Tex., COWBOY D. I. Exec: C. M. Garrett. (300)

Fairfield, Tex., TEXAS D. I. Exec: Alton Parker. (214)

Falfurrias, Tex., STAR D. I. Exec: Van Chamberlain. (300)

Floydada, Tex., CAPADA D. I., Box 905. Exec: Welton B. Winn. (400)

Fort Stockton, Tex., TRAIL D. I., Hwy. 290. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Fort Worth, Tex., BELKNAP D. I., 5709 E. Belknap, Box 7301. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (654)

Fort Worth, Tex., BOULEVARD D. I. (Formerly Bowie Blvd.), 7001 Camp Bowie. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (612)

Fort Worth, Tex., COWTOWN D. I., Jacksboro Hwy. and 28th St. Exec: Crim and Hartgrove, Community Ths. Ct. (1000)

Fort Worth, Tex., JACKSBORO HI-WAY D. I., Jacksboro Hwy., Box 9085. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (400)

Fort Worth, Tex., MANSFIELD D. I., P. O. Box 329A. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (750)

Fort Worth, Tex., PARKAIRE D. I. Exec: L. C. Tidball. (484)

Fort Worth, Tex., PIKE D. I., 7500 E. Lancaster. Exec: H. Gibbons. (650)

Fort Worth, Tex., RIVERSIDE D. I., Box 7102. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (650)

Forth Worth, Tex., KARVUE D. I. (Formerly Skyway). Exec: L. A. Ricketts. (345)

Fort Worth, Tex., SOUTHSIDE D. I., R. R. #3, P. O. Box 191. Exec: Southside Drive-In Th. Co. (780)

Fort Worth, Tex., WESTERNER D. I., Box 10218, Oaks Br. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (500)

Fredericksburg, Tex., "87" D. I. Exec: H. L. Durst. (300)

Freeport, Tex., TRADEWIND D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (600)

Freer, Tex., FREER D. I. Exec: H. J. Telford. (300)

Gainesville, Tex., HI-HO D. I., E. Hwy. 82. Exec: E. W. Capps. (505)

Galveston, Tex., OLEANDER D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (800)

Gatesville, Tex., CIRCLE S D. I. Exec: Skelton Bros., Regal Th. (300)

Georgetown, Tex., DUSK D. I. Exec: Paul Klatt, Fred Klatt, R. Creagh, and A. J. Vallentine. (250)

Giddings, Tex., LEE D. I. Exec: Mrs. C. W. Matson. (300)

Gilmer, Tex., CAROL D. I., Hwy. 271. Exec: C. H. Cox. (200)

Goldthwaite, Tex., 84 D. I. Exec: Phillip Nichols. (190)

Gonzales, Tex., TWILITE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (500)

Graham, Tex., GRAHAM D. I. Exec: All States Ths. (300)

Granbury, Tex., BRAZOS D. I. Exec: Fort Keith. (250)

Grand Prairie, Tex., DOWNS D. I. Exec: Tim Ferguson. (400)

Grapevine, Tex., MUSTANG D. I. Exec: W. E. Guest. (300)

Greenville, Tex., HUNT D. I., 4305 Wesley. Exec: C. C. Hamm. (350)

Hale Center, Tex., XIT D. I. Exec: J. B. Prather. (150)

Hamilton, Tex., 281 D. I. Exec: H. H. Stroud. (250)

Hamlin, Tex., HAMLIN D. I. Exec: Mrs. B. S. Ferguson. (300)

Harlingen, Tex., CITRUS D. I. Exec: C. DeSalma. (350)

Harlingen, Tex., VALLEY D. I., Box 1550, Hwy. 83. Exec: C. A. Richter, Southwest Ths. Ct., Box 2270, Corpus Christi. (250)

Haskell, Tex., SKY VUE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Hearne, Tex., HEARNE D. I., P. O. Box 289. Exec: T. J. Arhopulos. (370)

Henderson, Tex., CIRCLE D. I. Exec: Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (490)

Hereford, Tex., TOWER D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (330)

Hillsboro, Tex., HILL D. I. Exec: C. V. Jones, Rowley United Ct., 312 S. Harwood St., Dallas. (390)

Hondo, Tex., HONDO D. I. Exec: Harry A. Hammill. (300)

Houston, Tex., AIRLINE D. I. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (600)

Houston, Tex., DIAMOND (DIAMOND L) D. I. Exec: Diamond L D. I. Th., Inc. (300)

Houston, Tex., EPSOM D. I., 9700 Humble Rd. Exec: W. V. Ratcliff. (400)

Houston, Tex., HEMPSTEAD D. I., Rt. 9, Box 500. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Houston, Tex., IRVINGTON D. I., 8411 Irvington Blvd. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Houston, Tex., KING CENTER D. I. Exec: L-O-G, Inc., Box 2019, Dallas. (1000)

Houston, Tex., MARKET STREET D. I., 8601 Market St., Rd. Exec: C. H. Mitchamore and Neues. (650)

Houston, Tex., POST OAK D. I., 2900 Post Oak Rd. Exec: Jack Groves. (530)

Houston, Tex., SHEPHERD D. I., 6004 N. Shepherd Dr. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (504)

Houston, Tex., SOUTH MAIN D. I., 11510 Main St., Old Fort Bend Rd., Box 6556. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (896 and 361 Seats)

Houston 21, Tex., TRAIL D. I., 3203 Old Spanish Trail. Exec: Jack Furr. (875)

Houston, Tex., WINKLER RD. D. I., 205 Winkler Dr. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (628)

Huntsville, Tex., PINES D. I. Exec: Fred Smith. (315)

Irving, Tex., "183" D. I. Exec: Hans Smith. (400)

Jacksboro, Tex., MESQUITE D. I., P. O. Box 551. Exec: H. S. Shabay. (300)

Jacksonville, Tex., CHIEF D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (490)

Jasper, Tex., JEWELL OF THE FOREST D. I. Exec: F. W. McManus. (500)

Johnson City, Tex., JOY D. I. Exec: M. B. Barrow. (44 and 90 Seats)

Junction, Tex., MOONGLO D. I., Box 75. Exec: Tom Hardeman. (300)

Karnes City, Tex., MIDWAY D. I., P. O. Box 659. Exec: Alfred Pawelek. (275)

Kermit, Tex., LARIAT D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (466)

Kermit, Tex., TOWER D. I. Exec: Video Independent Ths., Ct., Tower Petroleum Bldg., Dallas. (300)

Kermit, Tex., YELLOW JACKET D. I. Exec: J. L. Slaughter. (500)

Kerrville, Tex., BOLERO D. I., Hwy. 27. Exec: C. H. Mitchamore and Neues. (350)

Kilgore, Tex., KILGORE D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (300)

Killeen, Tex., KILLEEN D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Killeen, Tex., RANCIER D. I. (Formerly Rancher). Exec: Rowley United Ct., 314 S. Harwood St., Dallas, and Ace Clary. (400)

Kingsville, Tex., BRAMA D. I. Exec: Dr. P. S. Joseph and Chester Kyle. (300)

Kingsville, Tex., HI-WAY D. I. Exec: C. W. Kyle, Joseph and Kyle Ths., Inc. (300)

Kingsville, Tex., KINGS D. I., P. O. Box 331. Exec: Dr. P. S. Joseph and Chester Kyle, Joseph and Kyle Ths., Inc. (370)

La Grange, Tex., SKY HI D. I., Hwy. 977, P. O. Box 556. Exec: Lela K. Loessin. (250)

La Marque, Tex., BAYOU D. I. Exec: M. K. McDaniel. (650)

Lamesa, Tex., SKY VUE D. I., Hwy. 87 and 180, Box 597. Exec: R. A. Noret. (583 and 520 Seats)

Lamesa, Tex., YUCCA D. I., Hwy. 87, P. O. Box 8. Exec: Audry Cox. (300)

Lampasas, Tex., CIRCLE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (325)

Laredo, Tex., EL RANCHO D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Laredo, Tex., TOWER D. I. (Stadium Type), Hwy. 81, 4610 San Bernardo. Exec: Arnulfo Gonzales. (352 and 73 Seats)

Levelland, Tex., LOBO D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (250)

Levelland, Tex., SPADE D. I., Hwy. 290. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (250)

Liberty, Tex., MILENTZ D. I. Exec: A. R. Milentz, Sr., Park Th. (360)

Littlefield, Tex., LFD D. I., Hwy. 84. Exec: W. J. Chesher, Palace Th. (400)

Littlefield, Tex., XIT D. I. Exec: W. J. Chesher, Palace Th. (400)

Livingston, Tex., CHIEF D. I. Exec: S. F. Fain. (350)

Lockhart, Tex., SKY VUE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (220)

Lone Star, Tex., LONE STAR D. I. Exec: Vernon Collins. (300)

Longview, Tex., CHEROKEE D. I. Exec: W. B. Gonts. (600)

Longview, Tex., COLONIAL D. I., Hwy. 80, P. O. Box 1232. Exec: W. M. Morrow, Park Amusements Co. (400)

Longview, Tex., RIVER ROAD D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (325)

Lubbock, Tex., CIRCLE D. I. Exec: Marvin McLarty. (600)

Lubbock, Tex., CORRAL D. I., Hwy. 82, Idalou Hwy. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (600)

Lubbock, Tex., COUNTRY CLUB D. I. Exec: F. R. Hamilton. (500)

Lubbock, Tex., RED RAIDER D. I. Exec: W. O. Bearden and J. B. Beeson. (950)

Lubbock, Tex., SUNSET D. I., Hwy. 62. Exec: P. E. Smith. (800)

Lubbock, Tex., TRAIL D. I. Exec: P. E. Smith. (825)

Lubbock, Tex., WESTERNER D. I., Hwy. 290, Levelland Hwy. Exec: E. K. Lamb. (350)

Lufkin, Tex., REDLAND D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (400)

Marlin, Tex., ROYAL D. I. Exec: J. C. Chatmas, Palace Th. (300)

Marshall, Tex., FOX D. I., P. O. Box 868. Exec: B. F. Johnson. (500)

Mason, Tex., ROUND UP D. I. Exec: B. F. Grimsley, O. O. Shew, and R. L. Whitehead. (200)

Mathis, Tex., MATHIS D. I. Exec: Leon Glasscock Ct., Majestic Bldg., San Antonio. (350)

McAllen, Tex., PALMS D. I., P. O. Box 297. Exec: Buell and Walsh. (400)

McCamey, Tex., CIRCUS D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

McCamey, Tex., FORD D. I. Exec: H. Ford Taylor. (300)

McGregor, Tex., MC LENNAN D. I. Exec: O. T. McGinley and Henry Smith. (300)

McKinney, Tex., McKINNEY D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Mercedes, Tex., WES-MER D. I., P. O. Box 576. Exec: J. T. Archer. (425)

Merkel, Tex., PIONEER D. I. Exec: H. T. Hodge, H and H Ths. (315)

Mertzon, Tex., MERTZON D. I., Hwy. 67. Exec: Sam Covey. (200)

Mexia, Tex., PARKWAY D. I., P. O. Box 709. Exec: Cliff Turner, Jr. and B. L. Hagle. (300)

Midland, Tex., CHIEF D. I., Hwy. 158. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (600)

Midland, Tex., FIESTA D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (600)

Midland, Tex., TEXAN D. I., Hwy. 80, Rt. 1, Box 2. Exec: Jones and Jones. (300)

Mineola, Tex., SKY VUE D. I. (Formerly Chief). Exec: R. T. Hooks. (250)

Mineral Wells, Tex., MOUNTAINEER D. I. Exec: T. L. Ritchie, Atlanta. (336)

Mineral Wells, Tex., PINTO D. I. Exec: T. L. Ritchie, Atlanta. (400)

Mission, Tex., BUCKHORN D. I. Exec: R. G. Ramsland. (300)

Monohans, Tex., CORRAL D. I., P. O. Box 1486. Exec: Wayne Long. (277)

Montague, Tex., HILL TOP D. I., 1 Mile North. Exec: McNeu and Garner. (200)

Morton, Tex., INDIAN D. I. Exec: Wallace Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (300)

Mount Pleasant, Tex., PLEASANT D. I. Exec: Kenneth Sleigh. (350)

Muleshoe, Tex., COX D. I. Exec: D. E. and A. H. Cox. (300)

Munday, Tex., SUNSET D. I. Exec: P. V. and C. E. Williams, Roxy Th. (300)

Nacogdoches, Tex., PINES D. I., Box 223. Exec: Kenneth McFarland, Jr. (360)

Navasota, Tex., PINE GROVE D. I. Exec: Walter L. Matney. (300)

New Boston, Tex., STARLITE D. I. Exec: Boyd Atkinson. (254)

New Braunfels, Tex., TOWER D. I. Exec: L. C. Hill. (250)

Nocona, Tex., CHIEF D. I. Exec: C. R. Bailey, Jr., Conn Th. (250)

Odessa, Tex., BRONCHO D. I., 2700 Andrews Hwy. Exec: H. T. Hodge, H and H Ths. (500)

Odessa, Tex., CACTUS D. I., Hwy. 80. Exec: Millard Jones. (500)

Odessa, Tex., PLAINS D. I. Exec: Mrs. Maggie Scott. (800)

Odessa, Tex., TWIN TERRACE D. I. Exec: Mrs. Maggie Scott. (1247 and 1000 Seats)

Odessa, Tex., TWIN VUE D. I. Exec: John Faster and O. B. Laird. (1100 and 1186 Seats)

O'Donnell, Tex., LYNN D. I. Exec: C. C. Caldwell, Rex Th. (200)

Olden, Tex., DIXIE D. I., P. O. Box 164. Exec: I. B. Walker. (250)

Olney, Tex., OL-WORTH D. I., Box 37. Exec: George B. Assiter. (350)

Olton, Tex., MUSTANG D. I. Exec: S. F. Bourak. (200)

Orange, Tex., MacARTHUR D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (600)

Palestine, Tex., DOGWOOD D. I. Exec: Rowley United Ct., 314½ S. Harwood St., Dallas. (400)

Palestine, Tex., MOONLITE D. I. Exec: William H. Pence. (300)

Paris, Tex., AIRPORT D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (470)

Paris, Tex., "271" D. I., Hwy. 271. Exec: Bell Bros. (300)

Pasadena, Tex., PASADENA D. I., Box 442. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (678)

Pearsall, Tex., HUB D. I. Exec: D. H. Hubbard. (200)

Pecos, Tex., EAGLE D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (461)

Pecos, Tex., SUNSET D. I. Exec. R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Pecos, Tex., TEXAN D. I. Exec: Bob Owens. (300)

Pharr, Tex., CACTUS D. I., Box 94. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (450)

Plainview, Tex., PIONEER D. I., Hwy. 70. Exec: Pat Moran. (400)

Plainview, Tex., SUNSET D. I. Exec: Price Holland. (400)

Plainview, Tex., TWIN-VUE D. I. Exec: Price Holland. (1000)

Pleasanton, Tex., TRAIL D. I., Box 97. Exec: W. D. Ginsscock. (300)

Port Arthur, Tex., DON D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co. (617 and 100 Seats)

Port Arthur, Tex., SURF D. I., 5104 Bernhardt Rd., Box 886. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (400)

Port Lavaca, Tex., PORT D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (300)

Post, Tex., SUNSET D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Quanah, Tex., CHIEF D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (350)

Ralls, Tex., EL CENTRO D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (300)

Ranger, Tex., RANGER D. I. Exec: H. M. Rapp. (200)

Raymondville, Tex., CORRAL D. I. Exec: Owen Killingsworth. (450)

Refugio, Tex., RANCHO D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Robstown, Tex., STARLITE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Rockdale, Tex., REEL D. I., Hwy. 79. Exec: Mrs. C. W. Matson, Dixie Th. (300)

Rosenburg, Tex., TWIN CITY D. I., Box 987. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (450)

Rotan, Tex., SUNDOWN D. I. Exec: Rowley United Ct., 314 Harwood St., Dallas. (300)

Rule, Tex., TOWER D. I. Exec: E. B. Wharton. (237)

San Angelo, Tex., ATOMIC D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (480 and 280 Seats)

San Angelo, Tex., BELVIEW D. I. Exec: R. W. Hendricks. (550)

San Angelo, Tex., STARDUST D. I., Hwy. 87. Exec: R. H. Hendricks. (300)

San Angelo, Tex., STARLITE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (750)

San Angelo, Tex., TWILITE D. I., Hwy. 87, Sonora Rt. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

San Antonio, Tex., ALAMO D. I., 1428 Austin Hwy. Exec: Statewide Drive-In Ths., 1428 Austin Hwy., San Antonio. (650 and 120 Seats)

San Antonio, Tex., EL CAPITAN D. I., Hwy. 90 at 36th St. Exec: S. K. Berry and Assoc. (570 and 250 Seats)

San Antonio, Tex., FIESTA D. I. Exec: S. K. Berry and Assoc. (750 and 270 Seats)

San Antonio, Tex., FREDERICKSBURG ROAD D. I., 3534 Fredericksburg Rd., Box 28. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (552)

San Antonio, Tex., HI-PARK D. I., Rt. 1, Box 290, 1301 Goliad Rd. Exec: C. H. Weaver, Jr., Hi-Park Drive-In, Inc. (500 and 132 Seats)

San Antonio, Tex., KELLY D. I., 1325 Frio City Rd., P. O. Box 6098. Exec: Thurman Barret, Jr. (550)

San Antonio, Tex., MISSION D. I., 3100 Roosevelt. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (760 and 120 Seats)

San Antonio, Tex., RIGSBY D. I. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (850)

San Antonio, Tex, ROXY D. I. Exec: W. T. Yett. (500)

San Antonio, Tex., SAN PEDRO D. I., Hwy. 281, Rt. 10, Box 49. Exec: C. Albert. (600)

San Antonio, Tex., SOUTH LOOP "13" D. I. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (1000)

San Antonio, Tex., TRAIL D. I., Military Dr. S. E., Box 28. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (700)

San Antonio, Tex., VARSITY D. I., 2202 Culebra Ave. Exec: Bob Dennis and E. M. Muller, Mul-Den Entr. (500)

San Augustine, Tex., EDGEWOOD D. I. Exec: Mr. Bucknlew. (250)

San Marcos, Tex., KING D. I., Hwy. 81. Exec: F. W. Zimmerman. (500)

San Saba, Tex., CORRAL D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (250)

Schulenberg, Tex., MIDWAY D. I. Exec: Joe D. Blinka. (187)

Seagraves, Tex., EAGLE D. I. Exec: Wallace B. Blankenship, Blankenship Ct., 312½ S. Harwood St., Dallas. (226)

Seguin, Tex., DIXIE D. I. Exec: H. A. Daniels. (450)

Seminole, Tex., CHIEF D. I. Exec: Audry Cox, Tower Th. (300)

Seymour, Tex., BRAZOS D. I. Exec: P. V. Williams, Ritz Th. (300)

Sherman, Tex., CAMPUS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Sherman, Tex., PERRIN D. I. Exec: R. E. Davis. (600)

Sherman, Tex., TWIN CITY D. I., Hwy. 75. Exec: C. D. Leon, Leon Ths. Ct., 2011½ Jackson St., Dallas. (350)

SITUATED IN THE heart of the coal mining district, the Ellis, Clarksburg, W. Va., has put nature to work and uses the rocky hill bounding the outdoor theatre as a support for the spacious screen tower.

Sinton, Tex., SINTON D. I., P. O. Box 817. Exec: T. C. Beshear. (300)

Slaton, Tex., CAPROCK D. I., Lubbock Hwy. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (300)

Smithville, Tex., RIVERSIDE D. I. Exec: M. M. Mitchell. (200)

Snyder, Tex., CANYON D. I., New Spring Hwy., P. O. Box 417. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (400)

Snyder, Tex., STARLITE D. I. Exec: Fife and Nichols and Assoc. (300)

Snyder, Tex., TRAIL D. I. Exec: Fife and Nichols and Assoc. (400)

Sonora, Tex., BRONCO D. I. Exec: G. H. Hall. (175)

Spur, Tex., HI HO D. I. Exec: R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (250)

Stamford, Tex., H AND H D. I. Exec: H. T. Hodge, H and H Ths. (350)

Stanton, Tex., BUFFALO D. I. Exec: R. B. Whitaker. (250)

Stephenville, Tex., STARLITE D. I. Exec: J. J. Arthur. (300)

Sulphur Springs, Tex., HI VUE D. I. Exec: W. G. Phillips. (400)

Sweetwater, Tex., MIDWAY D. I., Hwy. 80. Exec: J. D. Wallace. (300)

Sweetwater, Tex., PARK D. I., West of Town, P. O. Box 780. Exec: Lionel D. Maner. (250)

Sweetwater, Tex., ROCKETT D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Tahoka, Tex., T-BAR D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (350)

Taylor, Tex., TEXAS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Temple, Tex., LOOP D. I. Exec: Skelton Bros. (412 and 200 Seats.)

Temple, Tex., SUNSET D. I., Hwy. 36. Exec: J. C. "Jake" Webb. (300)

Temple, Tex., TEM-BEL D. I., Hwy. 81, Belton Hwy. Exec: Skelton Bros. (550)

Terrell, Tex., TERRELL D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Texas City, Tex., TRADEWIND D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (700)

Tulia, Tex., TULIA D. I. Exec: J. Lee Griffith, Tulia Th. Co., Griffith Th. (350)

Turnertown, Tex., STAR D. I. Exec: R. M. Shaw, Shaw and Guthrie. (400 and 400 Seats)

Tyler, Tex., CREST D. I., 2201 W. Bow. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (400)

Tyler, Tex., ROSE GARDEN D. I. Exec: S. G. Fry. (475)

Tyler, Tex., STARLITE D. I., Kilgore Hwy. Exec: C. D. Leon, Leon Ths. Ct., 2011½ Jackson St., Dallas. (350)

Uvalde, Tex., STARDUST D. I. Exec. R. I. Payne, Theatre Entrs., Inc., Tower Petroleum Bldg., Dallas. (450)

Van Horn, Tex., SAGE D. I. Exec: Lee Welch. (300)

Vernon, Tex., CACTUS D. I. Exec: C. C. Hamm, Mecca Th. (370)

Vernon, Tex., EL RANCHO D. I. Exec: J. L. Groves. (400)

Victoria, Tex., TEJAS-AZTECA D. I. (Formerly 2 Separate Theatres). Exec: Rubin Frels, Frels Ths. (700)

Victoria, Tex., TWIN RANCH D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (1000)

Waco, Tex., CIRCLE D. I., 2112 LaSalle, Box 1715. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (603)

Waco, Tex., JOY D. I. Exec: Joy N. Houck, Joy Ths., % Strand Th., Dallas. (700)

Waco, Tex., OAKLAWN D. I. Exec: Ed Newman. (600 and 241 Seats)

Waco, Tex., SKY D. I. Exec: Lyn Harrington. (500)

Waco, Tex., WACO D. I., Hwy. 81, Temple Hwy. Exec: Lone Star Ths., 4215 Live Oak, Dallas. (400)

Waco, Tex., WESTVIEW D. I., Hwy. 6. Exec: Ed Newman. (500)

Waxahachie, Tex., ELLIS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Weatherford, Tex., JONES D. I., Hwy. 180. Exec: C. H. Jones, Plaza Th. (385)

West, Tex., WEST D. I. Exec: Mildred Gallia, 1524 N. Buckner St., Dallas. (300)

Wichita Falls, Tex., GRANT ST. D. I., Grant St. Exec: Bullington, Lee and McMahan. (400 and 231 Seats)

Wichita Falls, Tex., SCOTTIC D. I., Henrietta Rd. Exec: Bullington, Lee and McMahan. (452)

Wichita Falls, Tex., SEYMOUR ROAD D. I., Box 2527. Exec: Charles W. Weisenburg, W.F.W. Ths., Inc., 2013½ Young St., Dallas. (650)

Wichita Falls, Tex., SHEPHERD D. I., Hwy. 287. Exec: Charles W. Weisenburg, W.F.W. Ths., Inc., 2013½ Young St., Dallas. (600)

Wichita Falls, Tex., SKYWAY D. I., Hwy. 79. Exec: Lyn Harrington. (640)

Wichita Falls, Tex., TWIN FALLS D. I., Hwy. 277, Sheppard Field Access Rd. Exec: Bullington, Lee and McMahan. (800)

Winters, Tex., FIESTA D. I. Exec: H. T. Hodge, H and H Ths. (300)

Woodville, Tex., DOGWOOD D. I. (Formerly Woodville). Exec: J. Wood Fain, Fain Th. (350)

Yoakum, Tex., SUNSET D. I. Exec: Mart Cole, Sr., Cole Ths., Rosenberg. (350)

Ysleta, Tex., BRONCO D. I. Exec: E. Abraham, El Paso. (550)

DENVER TERRITORY

Colorado

(NOTE: See also Salt Lake City Territory)

Alamosa, Colo., SKI-HI D. I. Exec: Gibraltar Entr. Ct., Denver. (400)

Boulder, Colo., MOTORENA D. I., P. O. Box 671. Exec: Irving Gilman, United Intermountain Ths. (500)

Brighton, Colo., KAR-VU D. I. Exec: Dave Davis, Atlas Ct., Denver. (350)

Brush, Colo., BRUSH D. I. Exec: John C. Roberts. (350)

Canon City, Colo., SUNSET D. I. Exec: George McCormick. (275)

Colorado Springs, Colo., 8th STREET D. I., S. 8th St. Exec: Larry Starsmore, Westland Ct. (700)

Colorado Springs, Colo., NORTHSIDE D. I. Exec: Lee Th. Co., Denver. (400)

Colorado Springs, Colo., STARLITE D. I., P. O. Box 241. Exec: Lee Th. Co., Denver. (1000)

Delta, Colo., SKYLITE D. I. Exec: William Taggert. (400)

Denver, Colo., EAST D. I., 12600 E. Colfax, Box 188. Exec: Wolfberg Ct. (750)

Denver, Colo., LAKESHORE D. I. (Lakewood). Exec: A. P. Archer, Civic Ct. (975 and 200 Seats)

Denver, Colo., MONACO D. I., 40th Ave. and Monaco Blvd. Exec: Lee Th. Co. (750)

Denver, Colo., NORTH D. I., N. Federal Blvd. and 72nd Ave. Exec: Wolfberg Ct. (600)

Denver, Colo., SOUTH D. I. (Englewood). Exec: Wolfberg Ct. (850)

Denver, Colo., VALLEY D. I. Exec: Wolfberg Ct. (1000)

Denver, Colo., WEST D. I., 601 Kipling. Exec: Wolfberg Ct. (750)

Durango, Colo., BASIN D. I. Exec: T. R. Knox, Box 51. (340)

Estes Park, Colo., LAKE ESTES D. I. Exec: D. D. Shanks. (225)

Fort Collins, Colo., SUNSET D. I. Exec: Joe LaConte. (560)

Fort Morgan, Colo., VALLEY D. I. Exec: John C. Roberts. (350)

Glenwood Springs, Colo., CANYON D. I. Exec: Gibraltar Entr. Ct., Denver. (400)

Grand Junction, Colo., CHIEF D. I., P. O. Box 958. Exec: Larry Starsmore, Westland Ct., Colorado Springs. (460)

Grand Junction, Colo., STARLITE D. I., 2028 North Ave. Exec, Lloyd Files. (300)

Greeley, Colo., GREELEY D. I., Box 414. Exec: R. W. Meyers. (596)

Greeley, Colo., MOTORENA D. I., 7800 N. Federal, P. O. Box 527. Exec: Lee Th. Co., Denver. (400)

Holly, Colo., PINKYS D. I. Exec: John Randle and Dale Dodnil. (-)

Hudson, Colo., CORRAL D. I. Exec: Mr. Philipson. (350)

La Jara, Colo., ROUND UP D. I. Exec: Herbert Gumper. (250)

La Junta, Colo., LA JUNTA D. I. Exec: Basil Smith. (550)

Lamar, Colo., KAR-VU D. I. Exec: Dave Davis, Atlas Ct., Denver. (410)

Longmont, Colo., STARVUE D. I. Exec: D. T. Brown, Jr. (350)

Louisville, Colo., L AND L MOTOR VU D. I. Exec: Romano and Houser. (225)

Loveland, Colo., MOTORENA D. I. (Formerly Luv-vue), 1 Mile S. on King's Rd. Exec: Irving Gilman, United Intermountain Ths. (300)

Montrose, Colo., STAR D. I., Star Rt., Cedaridge. Exec: Harry Barrett. (350)

Norwood, Colo., NORWOOD D. I. Exec: F. H. Buss. (62)

Pueblo, Colo., LAKE D. I., Lake and Maryland Ave. Exec: Lionel Semon. (500)

Pueblo, Colo., MESA D. I. Exec: Larry Starsmore, Westland Ct., Colorado Springs. (980)

Pueblo, Colo., PUEBLO D. I., Canon City Hwy. Exec: Lionel Semon. (725)

Rifle, Colo., CHIEF D. I. Exec: Mrs. Mary Lind by John Monson. (304)

Rocky Ford, Colo., STARLITE D. I. Exec: Sever and Downing. (400)

Salida, Colo., GROY D. I., 1048 F St. Exec: T.R. Knox. (350)

Sterling, Colo., STARLITE D. I., P. O. Box 1592. Exec: F. L. Childs. (350)

Trinidad, Colo., PEAK D. I. Exec: John Sawaya. (350)

Nebraska

(NOTE: See also Omaha Territory)

Alliance, Neb., STARLITE D. I. Exec: Park Dobson, Jr. (300)

Chadron, Neb., STARLITE D. I. Exec: Black Hills Amuse. Co., Deadwood, S. D. (475)

Chadron, Neb., STOCKADE D. I. Exec: Joe Tobin. (250)

Gordon, Neb., CHIEF D. I. Exec: Black Hills Amuse. Co., Deadwood, S. D. (300)

McCook, Neb., McCOOK D. I. Exec: D. T. Brown, Jr. (300)

North Platte, Neb., PAWNEE D. I. Exec: Commonwealth Ths., 215 W. 18th St., Kansas City 8, Mo. (350)

Ogallala, Neb., KEHR D. I. Exec: A. F. Kehr. (300)

Scottsbluff, Neb., BIGGER'S D. I. Exec: Floyd Biggers. (500)

Sidney, Neb., PLAINS D. I. Exec: Gillham and Carter. (350)

Terrytown, Neb., TERRY'S CARENA D. I. Exec: Terry Carpenter. (600)

New Mexico

(NOTE: See also Dallas Territory)

Albuquerque, N. M., CACTUS D. I. Exec: Albuquerque Exhibs. (738)

Albuquerque, N. M., DUKE CITY D. I. Exec: Tom Griffing. (940)

Albuquerque, N. M., 66 D. I. Exec: Albuquerque Exhibs. (557 and 40 Seats)

Albuquerque, N. M., STAR D. I. Exec: Tom Ribble. (500)

Albuquerque, N. M., SUNSET D. I. Exec: Marlin Butler. (400)

Albuquerque, N. M., TERRACE TWIN D. I. Exec: Tom Griffing. (1418 and 100 Seats)

Albuquerque, N. M., TESEQUE TWIN D. I. Exec: Cliff Butler. (850)

Artesia, N. M., CIRCLE B D. I. Exec: Ray Bartlett. (350)

Clayton, N. M., TRAIL D. I. Exec: Gibraltar Ent. Ct., Denver, Colo. (200)

Espanola, N. M., CHICO D. I. Exec: Mischel Fidel. (350)

Farmington, N. M., APACHE D. I. Exec: Russell Allen and Kenneth Crawford. (325)

Farmington, N. M., MESA D. I., Box 685. Exec: Frank Budai. (400)

Las Cruces, N. M., ORGAN D. I. Exec: Luis Maynez. (350)

Las Cruces, N. M., ROCKET D. I. Exec: Hugh Kane. (500)

Las Vegas, N. M., VEGAS D. I. Exec: Gus Daskalos. (300)

Raton, N. M., 85 D. I. Exec: Gibraltar Ent. Ct., Denver, Colo. (340)

Santa Fe, N. M., PUBLO D. I. Exec: Gibraltar Ent. Ct., Denver, Colo. (500)

Santa Fe, N. M., YUCCA D. I. Exec: Wiles and Nash. (500)

Santa Rosa, N. M., SKY RANCH D. I. Exec: Lester Dollison. (200)

Silver City, N. M., COPPER D. I. Exec: George Dowdle. (400)

Socorro, N. M., SIERRA D. I. Exec: Gibraltar Ent. Ct., Denver, Colo. (200)

Truth and Consequences, N. M., (Hot Springs), PALMS D. I., 507 Fir St. Exec: J. O. Conwell. (353)

Tucumcari, N. M., CANAL D. I. Exec: Milas Hurley. (520)

Tucumcari, N. M., COUNTY D. I. Exec: L. R. Yessler. (400)

South Dakota

(NOTE: See also Minneapolis and Omaha Territories)

Custer, S. D., DRIVE IN. Exec: Jack Richtman and Don Clifford. (275)

Rapid City, S. D., RAPID D. I. Exec: Black Hills Amuse. Co., Deadwood. (850)

Rapid City, S. D., SIOUX D. I. Exec: A. J. Johnson. (500)

Rapid City, S. D., STARLIGHT D. I. Exec: Black Hills Amuse. Co., Deadwood. (560)

Spearfish, S. D., HILLS D. I. Exec: James and Wally O'Neal. (380)

Texas

(NOTE: See also Dallas and Oklahoma City Territories)

Dalhart, Tex., EL RANCHO D. I. Exec: J. C. Parker. (356)

Wyoming

(NOTE: See also Salt Lake City Territory)

Buffalo, Wyo., DRIVE IN. Exec: Sam Rosenthal. (300)

Casper, Wyo., SKYLINE D. I. Exec: E. J. and Russel Schulte, and Gibraltar Entr. Ct., Denver, Colo. (400)

Cheyenne, Wyo., MOTOR VU D. I., P. O. Box 256. Exec: Russ Dauterman. (500)

Cheyenne, Wyo., STARLITE D. I. Exec: Russ Dauterman. (350)

Cody, Wyo., PARK D. I. Exec: Earl J. Corder. (300)

Cody, Wyo., WEST D. I. Exec: Richard Haberman. (312)

Lander, Wyo., DIANE D. I. Exec: M. E. Goodrich. (400)

Laramie, Wyo., SKYLINE D. I. Exec: Robert Adams. (300)

Lovell, Wyo., MIDWAY D. I. Exec: H. D. Bischoff. (211)

Newcastle, Wyo., STARLITE D. I. Exec: Bill Thompson. (300)

Powell, Wyo., PAUL'S D. I. Exec: Paul McCalmon. (200)

Rawlins, Wyo., SKYLINE D. I. Exec: Robert Adams. (300)

Riverton, Wyo., KNIGHT's D. I. Exec: T. E. Knight. (405)

Riverton, Wyo., WEST D. I., P. O. Box 1111. Exec: Ted Knox. (300)

Rock Springs, Wyo., STARLITE D. I. Exec: C. E. Bradshaw. (200)

Sheridan, Wyo., SKYLINE D. I. Exec: R. H. Bennett. (438)

Thermopolis, Wyo., EL RIO D. I. (Formerly Leo's). Exec: Fred Curtis. (300)

Torrington, Wyo., HILLTOP D. I., P. O. Box 112. Exec: Hazel Stewart. (350)

Torrington, Wyo., WEST D. I. Exec: W. H. McDonald. (310)

Wheatland, Wyo., PEAK D. I. Exec: Jones and Barthwick by Bob Patrick. (267)

Worland, Wyo., LLOYD's D. I. Exec: Lloyd Kerby. (380)

DES MOINES TERRITORY

Illinois

(NOTE: See also Chicago and Saint Louis Territories)

Milan, Ill., MEMRI D. I. Exec: James Fenoglio. (600)

Moline, Ill., CORRAL D. I. (Formerly Sky-Hi). Exec: S. M. Grengs, Theatre Mgt. Co., 2311 Foshay Tower, Minneapolis, Minn. (484)

Silvas, Ill., SEMRI D. I. Exec: James Fenoglio, % Memri Drive-In, Milan. (500)

Iowa

(NOTE: See also Kansas City, Omaha and Saint Louis Territories)

Algona, Ia., STARLITE D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (350)

Ames, Ia., RANCH D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (518)

Atlantic, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Ths., Pioneer Th. Bldg., Caroll. (323)

Burlington, Ia., BURLINGTON D. I., Agency Rd. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (420)

Carroll, Ia., CARROLL D. I. Exec: Don Smith, Pioneer Ths., Pioneer Th. Bldg. (480)

Cedar Falls, Ia., HILLCREST D. I. Exec: W. F. DeFreene, 6808 University, Des Moines. (500)

Cedar Rapids, Ia., CEDAR RAPIDS D. I. (Formerly Tri-States), Hwys. 30 and 149 SW. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (636)

Cedar Rapids, Ia., TWIXT TOWN D. I. Exec: Twixt Town Drive-In Corp., and Bill Curry, Iowa United Ths., 1123 High St., Des Moines. (620)

Centerville, Ia., TOWN AND COUNTRY D. I. Exec: Wayne McCalment and Bob Martin. (400)

Chariton, Ia., DRIVE IN. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines, and Horace Spencer, Mgr. (Under Construction)

Charles City, Ia., CHARLES CITY D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (350)

Charles City, Ia., STARVUE D. I. Exec: Carl and Ralph Olson, and Paul Brumblatt. (402)

Clinton, Ia., CLINTON D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (396)

Creston, Ia., DRIVE-IN. Exec: Commonwealth Ths., 215 W. 18th St., Kansas City 8, Mo. (300)

Davenport, Ia., BEL-AIR D. I., 2701 W. Locust St. Exec: F and S Amuse. Co. (550)

Decorah, Ia., STARLITE D. I. Exec: Hod Engbertson. (350-400)

Des Moines, Ia., CAPITOL D. I. Exec: Capitol Drive-In Th. Corp., and Les Durland, Consolidated Agencies, Kansas City, Mo. (707)

Des Moines, Ia., DES MOINES D. I., S. E. 14th and Hart. Exec: Central States Ths., Paramount Bldg., Des Moines. (600)

Des Moines, Ia., TOWN D. I., Highway 6—East. Exec: Bill Curry, Iowa United Ths., 1123 High St. (450)

Des Moines, Ia., WEST VU D. I., Higham Rd. and 85th. Exec: Bill Curry, Iowa United Ths., 1123 High St. (600)

Dubuque, Ia., DUBUQUE D. I., John Deere Rd. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (350)

Estherville, Ia., CHIEF D. I. Exec: R. L. Johnson—C. W. Legg. (300)

Fairfield, Ia., FAIRFIELD D. I. Exec: Theatre Entr. of Des Moines, and Nathan Sandler, 1020 Paramount Bldg., Des Moines. (300)

Fort Dodge, Ia., HILL TOP D. I., Hwy. 169, Box 277. Exec: Willis Warner and Otis Heskett. (428)

Grinnell, Ia., DRIVE-IN. Exec: Frank Rubel. Central States Ths., Paramount Bldg., Des Moines. (250)

Iowa City, Ia., IOWA CITY D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (392)

Iowa Falls, Ia., DRIVE-IN. Exec: J. C. Jensen, Iowa United Ths., 1123 High St., Des Moines. (500)

Maquoketa, Ia., 61 D. I. Exec: Allen and Franklin. (286)

Marshalltown, Ia., MARSHALLTOWN D. I., P. O. Box 184. Exec: H. N. Schrodt. (372)

Mason City, Ia., MASON CITY D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (606)

A VIEW OF THE 50 foot screen tower in the first and only drive-in theatre in Johannesburg, South Africa. The modern, well-equipped ozoner is jammed to its 640 car capacity for every performance.

Mount Pleasant, Ia., DRIVE-IN. Exec: M. L. Dickson (350)

Muscatine, Ia., HILL TOP D. I. Exec: Ludy Bosten, Uptown Th. (400)

Newton, Ia., NEWTON D. I. Exec: Sam Rhodes. (256)

Oelwin, Ia., DRIVE-IN. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (300)

Oskaloosa, Ia., OSKALOOSA D. I. Exec: L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (450)

Ottumwa, Ia., OTTUMWA D. I., Municipal Airport. Exec: Ottumwa Drive-In Co. and L. Wegener, Central States Ths., Paramount Bldg., Des Moines. (400)

Panora, Ia., STAR VU D. I. Exec: Dorothy Kenn, Little Th. (200)

Perry, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (410)

Pocahantus, Ia., CHIEF D. I. Exec: Adu Mueting. (300)

Spencer, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (354)

Washington, Ia., WACO D. I. Exec: Washington Amuse. Co., and Bill Curry, Iowa United Ths., 1123 High St., Des Moines. (400)

Waterloo, Ia., SKY VU D. I., Hwy. 20 E., Box 485. Exec: Philip Winslow. (429)

Waterloo, Ia., STARLITE D. I., Hwy. 218, Box 485. Exec: Philip Winslow. (688)

Webster City, Ia., WEBSTER CITY D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (393)

Missouri

(NOTE: See also Kansas City, Memphis and Saint Louis Territories)

Memphis, Mo., AIRWAY D. I. Exec: C. W. Locke, Time Th. Co. (300)

DETROIT TERRITORY

Michigan

(NOTE: See also Milwaukee Territory)

Addison, Mich., STARLITE D. I. Exec: Al Puyne, Mutual Ths., 505 Fox Bldg., Detroit, and Warren Alguire. (200)

Adrian, Mich., LENAWEE D. I., 3000 N. Adrian Rd., R.F.D. #3. Exec: V. V. Ochs, and General Th. Serv., 3410 Grand River, Detroit. (300)

Adrian, Mich., SKY D. I. Exec: R. B. Tuttle, Mgr., and William Clark, 815 Donovan Bldg., Detroit. (480)

Albion, Mich., ALBION D. I. Exec: W. Campbell, Reading, and E. J. Pennell. (400)

Alpena, Mich., ALPENA D. I. Exec: Dean Sowder, and Glenn Wallace, Northeastern Mich. Th. Co. (464)

Ann Arbor, Mich., SCIO D. I., % Granada Th., 3539 W. Warren. Exec: Robinson and Carrow. (400)

Ann Arbor, Mich., YPSI ANN D. I., 4675 Washtenaw. Exec: Roger Robinson, Detroit 1. (500)

Bad Axe, Mich., M-53 D. I. (Formerly Bad Axe). Exec: Ashmun Bros., Caro. (400)

Battle Creek, Mich., AUTO D. I., Route 5, Box 106. Exec: Paul O. Brake, Midwest Entr., and General Th. Serv., 3410 Grand River, Detroit. (500)

Bay City, Mich., STARLITE D. I. Exec: Ashmun Bros., Caro. (900)

Bay City, Mich., TUSCOLA D. I., Rt. M-15. Exec: Bernstein Ths. (864)

Bayshore, Mich., NORTHLAND D. I. Exec: Glenn Wallace. (300)

Benton Harbor, Mich., STARLITE D. I., Rt. M-139. Exec: Gus and Walter Elsnor. (575)

Beulah, Mich., CHERRYBOWL D. I. Exec: L. O. Griffin, and General Th. Serv., 3410 Grand River, Detroit (300 Under Construction)

Buelah, Mich., NITE SKY D. I. Exec: E. H. Fernette, Waxman Ct. (170)

Big Rapids, Mich., BIG RAPIDS D. I. Exec: R. A. Chipman. (300)

Brighton, Mich., LAKES D. I. Exec: C. A. Anderson, Lakes Th. Corp., and William Clark, 815 Donovan Bldg., Detroit. (500)

Burnside, Mich., BURNSIDE D. I. Exec: O. Degelbeck and Harold Muir, 470 Bancroft Ave., Imlay City. (361)

Cadillac, Mich., CADILLAC D. I. Exec: L. E. Stephenson and Ceylon Caszatt, McBain, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (361)

Caro, Mich., CARO D. I. Exec: Ashmun Bros. (500)

Caseville, Mich., BLUE SKY D. I. Exec: R. F. Schuckert, Caro. (300)

Charlotte, Mich., DRIVE IN. Exec: C. R. Beechler. (–)

Cheboygan, Mich., DRIVE IN. Exec: John Wagner. (650)

Clare, Mich., NORTHLAND D. I. Exec: Charles H. Bonham, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (500)

Coldwater, Mich., COLDWATER D. I. Exec: William Schulte, and Mutual Ths., 505 Fox Th. Bdg., Detroit. (300)

Corunna, Mich., SKY-WAY D. I. Exec: William A. Rice, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (350)

Dearborn, Mich., DEARBORN D. I., 26500 Ford Rd. Exec: James Ross, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (1040)

Dearborn, Mich., FORD WYOMING D. I., 10400 Ford Rd., Box 59. Exec: John Wafhen, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (750)

Deckerville, Mich., HI-WAY D. I. Exec: C. H. Clements, and Mutual Ths., 505 Fox Th. Bldg., Detroit. (400)

Detroit, Mich., BELAIR D. I. Exec: Goldberg Bros., Community Ths., 2905 Cadillac Tower. (1200)

Detroit, Mich., EASTSIDE D. I., 19440 Harper St. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (675)

Detroit, Mich., TOWN D. I. (Redford Township), 9401 Telegraph Rd. Exec: Goldberg Bros., Community Ths., 2905 Cadillac Tower. (1100)

Detroit, Mich., WESTSIDE D. I. (Ferndale), 8 mi. and Schaefer Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (700)

East Lansing, Mich., CREST D. I., P. O. Box 91. Exec: Ashmun Bros., Caro. (650)

East Tawas, Mich., TAWAS D. I. Exec: A-K Ths. (360)

Ecorse, Mich., ECORSE D. I. Exec: Ohio Drive-In Mgt. Co., 540 Leader Bldg., Cleveland 14, Ohio. (1000)

Ecorse, Mich., FORT D. I., Eureka and Fort. Exec: Nicholas George, and Mutual Ths., 505 Fox Bldg., Detroit. (1200)

Ecorse, Mich., MICHIGAN D. I., Route 25, 14850 Dix-Toledo. Exec: Nicholas George, and Mutual Ths., 505 Fox Bldg., Detroit. (900)

Farmington, Mich., GRAND RIVER D. I. (Detroit). Exec: Grand River Drive-In, Inc., Goldberg Bros., Community Ths., 2905 Cadillac Tower, Detroit. (1050)

Flint, Mich., CORUNNA WESTSIDE D. I., Rt. Mi-21. Exec: W. M. Rice, and Mutual Ths., 505 Fox Bldg., Detroit. (900)

Flint, Mich., DORT EASTSIDE D. I., 3750 S. Dort Hwy. Exec: W. M. Rice, and Mutual Ths., 505 Fox Bldg., Detroit. (1406)

Flint 7, Mich., U. S. 23 D. I., G5200 Fenton Rd. Exec: L. Warrington, and William Clark, 815 Donovan Bldg., Detroit. (1130)

Fraser, Mich., GRATIOT D. I. (Detroit), 31900 Gratiot. Exec: Alex Schreiber Ct., Detroit. (1050)

Gaylord, Mich., GAYLORD D. I. Exec: James and George Olson. (318)

Grand Rapids, Mich., BELTLINE D. I., 1400 W. 28th St. Exec: Jack Locks, and General Th. Serv., 3410 Grand River, Detroit. (750)

Grand Rapids, Mich., DIVISION D. I., 5566 S. Division. Exec: Jack Locks, and General Th. Serv., 3410 Grand River, Detroit. (850)

Grand Rapids, Mich., STADIUM D. I. Exec: Clive Waxman, P. O. Box 8, Station C. (300)

Greenville, Mich., GREENVILLE D. I., 9410 S. Greenville Rd. Exec: Russell Chipman. (350)

Hartford, Mich., SUNSET D. I., U. S. 12. Exec: J. Frank Jacobs, 120 Douglas St., Bangor. (350)

Hastings, Mich., HASTINGS D. I., P. O. Box 289. Exec: Donald G. Garey. (280)

Hillsdale, Mich., HILLSDALE D. I., Rt. M-99. Exec: Howard Sharpley, Waxman Ct. (170)

Houghton Lake, Mich., 55 HI D. I. Exec: James Olson. (738)

Ionia, Mich., IONIA D. I. Exec: Russell A. Chipman and Arthur D. Chipman. (350)

*Jackson, Mich., HILL TOP D. I. Exec: Larry Dingee and John Buck. (80–16MM)

Jackson, Mich., JACKSON D. I., 4400 Ann Arbor Rd. Exec: Lawrence J. Aubry, and Mutual Ths., 505 Fox Bldg., Detroit. (520)

Kalamazoo, Mich., AUTO D. I., 5528 Portage Rd. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, Ohio. (400)

Kramer Corner, Mich., PAUL BUNYON SKYVUE D. I. (Hubbard Lake). Exec: Lou Kramer. (200)

Lansing, Mich., LANSING D. I., 5097 S. Cedar Rd. Exec: Lawrence J. Aubry, and Mutual Ths., 505 Fox Bldg., Detroit. (988)

Lansing, Mich., NORTH SIDE D. I. Exec: August Leon Robbe, and General Th. Service, 3410 Grand River, Detroit. (300)

Lansing, Mich., STARLIGHT D. I. Exec: James Blackburn, Clark Ct., 2457 Woodward, Detroit 1. (450)

Lapeer, Mich., SUNSET D. I. Exec: R. F. Schuckert, Caro. (432)

Manistee, Mich., CHIPPEWA D. I. Exec: Darwin S. Evens. (276)

Marlette, Mich., H AND S D. I. Exec: William Clark, 815 Donovan Bldg., Detroit. (300)

Marysville, Mich., MARYSVILLE D. I., P. O. Box 84. Exec: Alex Slendak, and General Th. Serv., 3410 Grand River, Detroit. (600)

Mendon, Mich., M-60 D. I. Exec: L. S. Danley. (168)

Midland, Mich., SUNSET D. I. Exec: Chrysler Assoc., 8843 E. Jefferson Ave., Detroit. (500)

Mio, Mich., DAI-ROY D. I. Exec: Roy Whitney. (300)

Monroe, Mich., DIXIE D. I., 6720 N. Monroe. Exec: Jack Phillips, and Mutual Ths., 505 Fox Bldg., Detroit. (300)

Morenci, Mich., SKYLINE D. I. Exec: D. Lee McLain, Rex Th., and Mutual Ths., 505 Fox Bldg., Detroit. (200)

Mount Clemens, Mich., MT. CLEMENS D. I. Exec: Mt. Clemens Drive-In Corp., and Mutual Ths., 505 Fox Bldg., Detroit. (1000)

Mount Morris, Mich., NORTH FLINT D. I., Mt. Morris Rd., Box 65. Exec: R. O. Fredley. (646)

Muskegon, Mich., AUTO D. I., 4291 Grand Haven Rd. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, Ohio. (640)

Muskegon, Mich., N-K D. I. Exec: Nick Kuris, and General Th. Serv., 3410 Grand River, Detroit. (1024)

Niles, Mich., NILES D. I., Route 31, Box 282. Exec: Manta and Rose, 600 S. Michigan Ave., Chicago, Ill. (1000)

Plainwell, Mich., 131 D. I., Hwy. 131. Exec: Harold Kortes, and Charles Sears. (268)

Pontiac, Mich., BLUE SKY D. I., 2150 Opdyke. Exec: Roger Robinson, and Mutual Ths., 505 Fox Bldg., Detroit. (908)

Pontiac, Mich., PONTIAC D. I. Exec: Elton Samuels, and Mutual Ths., 505 Fox Bldg., Detroit. (794)

Port Huron, Mich., BLUEWATER D. I., 1305 Palmer Court. Exec: Blue Water Th. Co. (750)

Rosebush, Mich., SUNDOWN D. I. Exec: George and James Olson, Clark Ct., 2457 Woodward, Detroit 1. (350)

Royal Oak, Mich., OAK D. I. Exec: Alden Smith, and Mutual Ths., 505 Fox Bldg., Detroit. (1100)

Saginaw, Mich., AUTO D. I., 5151 E. Genesee St. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, Ohio. (400)

Saginaw, Mich., TWILITE D. I., 10 Mile Rd. Exec: Ashmun Bros., Caro. (716)

Saint Johns, Mich., FAMILY D. I. Exec: James Blackburn, Clark Ct., 2457 Woodward St., Detroit 1. (420)

Saint Joseph, Mich., ST. JOE AUTO D. I. Exec: M. H. Johnson and Clive Waxman. (450)

Saint Louis, Mich., SKYTOP D. I. Exec: J. Langston and William Clark, 815 Donovan Bldg., Detroit. (462)

Saugatuck, Mich., STARLITE D. I. (Holland). Exec: J. Locks, and General Th. Serv., 3410 Grand River, Detroit. (450)

Scottville, Mich., STARLITE D. I. Exec: Glenn Wallace. (280)

Sturgis, Mich., STURGIS D. I. Exec: Andrew Jenson. (250)

Traverse City, Mich., TRAVERSE D. I. Exec: Glenn Wallace and Bion Rockwell. (542)

Waterford, Mich., STARLITE D. I. Exec: Earl E. Howard, Starlite Th. Corp., Drayton Plains, and William Clark, 815 Donovan Bldg., Detroit. (600)

Wayne, Mich., WAYNE D. I. Exec: W. D. Shafer, State Th., and Mutual Ths., 505 Fox Bldg., Detroit. (1000)

INDIANAPOLIS TERRITORY

Indiana

(NOTE: See also Chicago, Cincinnati and Saint Louis Territories)

Anderson, Ind., NORTH D. I., Hwy. 32. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (480)

Anderson, Ind., SOUTH D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (550)

Angola, Ind., LAKELAND D. I. Exec: M. H. Scheidler and Clair Stuckey. (500)

Attica, Ind., WABASH D. I. Exec: Carl Noggle, and Edward Campbell Ct. (350)

Bainbridge, Ind., MEADOWBROOK D. I. (Greencastle) Exec: Archie Allen. (374)

Bedford, Ind., BEDFORD D. I. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bedford, Ind., EAST 50th D. I. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bloomfield, Ind., FAMILY D. I., R.R. #2. Exec: Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (300)

Bloomington, Ind., CASCADE D. I., Martinsville Rd. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bluffton, Ind., NEW BLUFFTON D. I., North of City. Exec: Anthony Mallers. (350)

Centerton, Ind., CENTER BROOK D. I. Exec: Clyde E. Weddel, Jr., R.R. #2, Martinsville, and Baker Ct. (400)

Charlestown, Ind., FAMILY D. I., P. O. Box 215. Exec: L. E. Grewell, 514 Forum Ave., Louisville, Ky., Fred J. Belcher, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (250)

Clarkesville, Ind., CLARKSVILLE D. I., 757 Clark Blvd. Exec: Atkins and Bowling, and R. P. Dawson. (600)

Clayton, Ind., MAPLECROFT D. I. (Mechanicsburg). Exec: C. F. Morrison, 1250 Waldemere, Indianapolis. (238)

Clearmont, Ind., DE LUXE D. I. Exec: Paul Boatman, Veedersburg. (325)

Clinton, Ind., CLINTON D. I. (Newport). Exec: Joe Million. (450)

Cloverdale, Ind., O. C. MIDWAY D. I. (Greencastle). Exec: Frank Ogles. (250)

Columbus, Ind., COLUMBUS D. I. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (500)

Connersville, Ind., CONNERSVILLE D. I., 2 Mi. W. of City. Exec: R. Harrold, J. R. Pell, Rushville, and Affiliated Ths. Inc., Illinois Bldg., Indianapolis. (400)

Crawfordsville, Ind., BEN HUR D. I. Exec: Bert Rayburn, and Co-Op Ths., Chamber of Commerce Bldg., Indianapolis. (700)

Crawfordsville, Ind., VILLE D. I. Exec: Auto Th. Corp., and Co-Op Ths., Chamber of Commerce Bldg., Indianapolis. (400)

Decatur, Ind., DECATUR D. I. Exec: Decatur Drive-In Th., Inc., and Affiliated Ths. Inc., Illinois Bldg., Indianapolis. (400)

Elletsville, Ind., SUNDOWN D. I. Exec: T. G. Cramer, R.R. #3, Martinsville. (400)

Elwood, Ind., ELWOOD D. I. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (500)

Evansville, Ind., FAMILY D. I. Exec: M. Markwell and Ted Graulich, R.R. 10. (425)

Evansville, Ind., SMARTEST INDOOR-OUTDOOR D. I., Soonerville Hwy. Exec: Harry N. Coleman, R.R. #6. (600)

Evansville, Ind., SUNSET D. I., P. O. Box 2038, Station D. Exec: Joe J. Nickolick and C. A. Moore. (600)

Evansville, Ind., WEST SIDE D. I. Exec: Douglas Carr and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (750)

Fort Wayne, Ind., EAST 30 D. I. Exec: Brailey-Browning, Inc. and United Film Serv., Illinois Bldg., Indianapolis. (450)

Fort Wayne, Ind., FORT WAYNE D. I., 5800 Bluffton Rd. Exec: Brailey-Browning, Inc. and United Film Booking Serv., Illinois Bldg., Indianapolis. (600)

Fort Wayne, Ind., HILLCREST D. I. Exec: Charles Loudenslager, and United Booking Serv., Illinois Bldg., Indianapolis. (500)

Fort Wayne, Ind., SUNSET AUTO D. I. Exec: Brailey-Browning, Inc. and United Film Booking Serv., Illinois Bldg., Indianapolis. (600)

Fountaintown, Ind., MOONLITE D. I., Hwy. 52. Exec: Irving Tamler, 3557 Watson Rd., Indianapolis. (350)

Frankfort, Ind., OUTDOOR D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (500)

Garrett, Ind., TRI-HI D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (300)

Geneva, Ind., LIMBERLOST D. I. Exec: Clyde Nihiser and W. R. Miller. (200)

Georgetown, Ind., GEORGETOWN D. I., R.R. #3, Jeffersonville. Exec: Harry S. Miller, and Edward Campbell Ct. (350)

Greenfield, Ind., NATIONAL OUTDOOR D. I. (Formerly New). Exec: Jacob M. Smiler. (1000)

Greenwood, Ind., GREENWOOD D. I., R.R. #3. Exec: M. D. Brazee, R.R. #3, P. O. Box 200A. (763)

Greenwood, Ind., MERIDIAN ST. D. I. Exec: John Browning, R.R. #2, and Morrison Ct. (300)

Hartford City, Ind., BLACKFORD D. I. Exec: Scheidler Th. Co. (350)

Huntington, Ind., HUNTINGTON D. I. Exec: Gail Lancaster, Huntington Amuse. Co., and Affiliated Ths., Inc., Illinois Bldg., Indianapolis. (500)

Indianapolis, Ind., SHADELAND D. I. Exec: Cantor Amuse. Inc., 922 Pennsylvania St. (800)

Indianapolis, Ind., TWIN D. I. Exec: Dr. Marvin Sandorf. (1800)

Indianapolis, Ind., WEST LAKE D. I., Rt. 2, Box 60. Exec: Earl Bell. (1000)

Indianapolis, Ind., WESTSIDE D. I. Exec: Forrest Songer, Veedersburg. (600)

Jasper, Ind., FAMILY D. I. Exec: Raymond Schmitt. (400)

Jeffersonville, Ind., THEATAIR D. I. Exec: K. McAllister and Robert Harned, R.R. #2. (232)

Kendallville, Ind., HI-VUE D. I. (Formerly Kendallville). Exec: Robert L. Hudson, Hudson Ent., Inc., 621 Main St., Richmond. (478)

Knox, Ind., MELODY D. I., Rt. 3. Exec: R. Hand, G. Banta, T. Vitelle. (400)

Kokomo, Ind., KOKOMO D. I. (Peru), Hwy. 54. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (500)

Lafayette, Ind., EAST D. I., Hwy. 26. Exec: Fourth Ave. Amuse. Co., Francis Bldg., Louisville, Ky. (450)

Lafayette, Ind., WEST SIDE D. I. Exec: Fourth Ave. Amuse. Co., Francis Bldg., Louisville, Ky. (450)

Lawrence, Ind., LAWRENCE D. I., Pendleton Pike, P.O. Box 202. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (500)

Linton, Ind., LINTON D. I. Exec: Edward Campbell Ct. (300)

Logansport, Ind., SKYLINE AUTO D. I., R.R. 17. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (500)

Madison, Ind., SKYLINE D. I., R.R. #5. Exec: Ray Turner, Elmer Sohowe. (400)

Marion, Ind., HIGHWAY D. I., 26th and Bypass. Exec: Ralph Marcuccilli and Guy Bove, and Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (500)

Marion, Ind., MARIONAIR D. I., 620 W. 3rd St. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (500)

Martinsville, Ind., MARTINSVILLE D. I. Exec: Fred Myers, and Edward Campbell Ct. (300)

Maywood, Ind., BEL AIR D. I. (Formerly Maywood Open Air). Exec: Earl Bell. (200)

Mechanicsburg, Ind., FRANKFORT-LEBANON D. I. Exec: Harry Ziegler, and Morrison Ct. (150)

Monticello, Ind., MONTICELLO D. I., P. O. Box 222, Rt. 1. Exec: A. L. Taylor and J. C. Rickey, Box 222. (400)

Mooresville, Ind., WHEEL-IN D. I., Hwy. 67. Exec: Orval Templeton. (350)

Muncie, Ind., MUNCIE D. I. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (600)

Muncie, Ind., SKY HI D. I. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (508)

New Castle, Ind., SKY DROME D. I., Spiceland Rd. Exec: Marc Wolf and Mendelssohn Entr., 2741 Central St., Indianapolis, and United Film Booking Serv., Illinois Bldg., Indianapolis. (500)

Noblesville, Ind., NOBLESVILLE D. I., P. O. Box 57. Exec: F. J. Mitchell, Doral Mitchell, and United Film Booking Serv., Illinois Bldg., Indianapolis. (400)

Oakland City, Ind., OAKLAND D. I. Exec: Siegel Thurman. (350)

Osgood, Ind., BEL AIR D. I. (Versailles). Exec: Paul Kelly. (250)

Paoli, Ind., PAOLI D. I., Rt. 2. Exec: James and Gladys Dunn, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (300)

Plymouth, Ind., TRI-WAY D. I. Exec: Wolf and Marcus, and United Film Booking Serv., Illinois Bldg., Indianapolis. (500)

Portland, Ind., BEACON D. I. Exec: W. Richard Norton, Red Key. (600)

Portland, Ind., SKY-VUE D. I. (Fort Wayne). Exec: Mallers Bros., 1014 Calhoun St., Fort Wayne. (300)

Princeton, Ind., PRINCETON D. I., Hwy. 41 South. Exec: Princeton Drive-In Corp., and Affiliated Ct., Illinois Bldg., Indianapolis. (400)

Richmond, Ind., NATIONAL HI-WAY D. I. Exec: Hudson Ths. Co. (600)

Rochester, Ind., DRIVE IN. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (Under Construction)

THE HOLIDAY DRIVE-IN, Erwin, Tenn., is acclaimed as one of the finest small town theatres in the country. It features the best in projection and sound equipment, and a fully equipped play area.

Rockville, Ind., FAMILY D. I. Exec: Forrest Songer. (300)

Salem, Ind., SALEM D. I. (Formerly Shamrock). Exec: H. R. Blankenbarker and W. R. Callam, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (450)

Scottsburg, Ind., MOON-GLO D. I. Exec: Atkins and Hoffman, and Morrison Ct. (400)

Seeleyville, Ind., CORRAL D. I., Hwy. 40. Exec: F. O. Hilligoss, Plainfield. (600)

Seymour, Ind., STAR DUST D. I. Exec: C. W. Massy, R.R. #2. (400)

Shelburn, Ind., SHELBURN D. I. Exec: Carl Himebrook. (300)

Shelbyville, Ind., SHELBY D. I., P. O. Box 309. Exec: Robert Wilcox, and United Film Booking Serv., Illinois Bldg., Indianapolis. (400)

Shelbyville, Ind., SKYLINE D. I. Exec: Harland Waltz and Lester McRoberts, and United Film Booking Serv., Illinois Bldg., Indianapolis. (500)

Sullivan, Ind., SULLIVAN D. I., Rt. 33-21. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (350)

Tell City, Ind., STARLITE D. I. (Cannelton). Exec: W. A. Spear, P. O. Box 141, and Edward Campbell Ct. (300)

Terre Haute, Ind., EAST D. I., R.R. 5. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (200)

Terre Haute, Ind., TERRE HAUTE D. I., N. Lafayette Ave., R.R. 7, Box 107-A. Exec: M. W. and M. Entr., and United Film Booking Serv., Illinois Bldg., Indianapolis. (600)

Veedersburg, Ind., "41" D. I. Exec: Joe Million. (250)

Vincennes, Ind., ALLISON D. I., St. Rd. 50 W. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (480)

Vincennes, Ind., EAST D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (600)

Vincennes, Ind., KNOX D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago, Ill. (400)

Wabash, Ind., 13-24 D. I., Hwy. 13. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (600)

Warsaw, Ind., WARSAW D. I. Exec: Mullers Bros., 1014 Calhoun St., Fort Wayne. (400)

Washington, Ind., EAST 50 D. I. Exec: S. J. Switow, M. Switow and Sons Ents., 651 S. 4th St., Louisville, Ky. (350)

Winchester, Ind., AIR LINE D. I. Exec: Mike Make. (400)

Kentucky

(NOTE: See also Cincinnati, Memphis and Saint Louis Territories)

Bardstown, Ky., GYPSY D. I. Exec: Ornstein Ct., 427 S. 3rd St., Louisville. (250)

Bowling Green, Ky., LOST RIVER D. I. Exec: Davis Duff and J. E. Thompson. (600)

Bowling Green, Ky., RIVERSIDE D. I. Exec: David Duff and J. E. Thompson. (400)

Campbellsville, Ky., CAMPBELLSVILLE D. I. Exec: Whitlock and Kemp. (300)

Central City, Ky., 62 D. I. Exec: Rockwood. (250)

Columbia, Ky., ADAIR D. I. Exec: F. X. Merkely. (300)

Elizabethtown, Ky., KNOX D. I. Exec: W. R. Holder, Elizabethtown Amuse. Co. (Under Construction)

Elizabethtown, Ky., STARLIGHT D. I. Exec: Robert Enoch. (300)

Glasgow, Ky., STAR D. I., P. O. Box 445. Exec: Bruce Ansley and Affiliated Ths., Inc., Illinois Bldg., Indianapolis, Ind. (563)

Harned, Ky., SKYLINE D. I. Exec: Ornstein Ct., 427 S. 3rd St., Louisville. (67)

Hopkinsville, Ky., B AND W D. I., Hwy. 49. Exec: George Edwards and Shelby McCollum. (500)

Horse Cave, Ky., TWIN CITY D. I. Exec: Ornstein Ct., 427 S. 3rd St., Louisville. (400)

Lebanon, Ky., LEBANON D. I., Hwy. 49. Exec: C. C. Sims, and Ornstein Ct., 427 S. 3rd St., Louisville. (300)

Louisville, Ky., DIXIE D. I. (Shiviey), Hwy. 60. Exec: Floyd Morrow. (500)

Louisville, Ky., EAST D. I. (St. Matthews), Hwy. 31. Exec: Floyd Morrow. (500)

Louisville, Ky., KENWOOD D. I. Exec: W. Wood, 702 Kentucky Home Life Bldg. (800)

Louisville, Ky., PARKWAY D. I., Box 480, Rt. 6. Exec: John Nolan. (680)

Louisville, Ky., PRESTON D. I. Exec: S. J. Switow, M. Switow and Sons Ents., 651 S. 4th St. (400)

Louisville, Ky., SKYWAY D. I. Exec: Louis Arru. (650)

Louisville, Ky., TWILITE D. I. (Formerly Twin), 4015 Crittenden Dr. Exec: Louis Arru. (1000)

Marion, Ky., DRIVE IN. Exec: Edward Campbell Ct. (280)

Morganfield, Ky., BROADVIEW D. I. Exec: Edward Campbell Ct. (375)

Owensboro, Ky., CARDINAL D. I. Exec: J. W. Blincoe. (500)

Owensboro, Ky., FAMILY D. I. Exec: E. M. Blincoe. (100)

Owensboro, Ky., PARKWAY D. I. Exec: J. W. Blincoe. (100)

Owensboro, Ky., STARLIGHT D. I. Exec: Baker Booking Serv., Chamber of Commerce Bldg., Indianapolis, Ind. (400)

Pendleton, Ky., LAKE VIEW D. I. Exec: Edward Campbell Ct. (200)

Springfield, Ky., BEL VISTA D. I. Exec: Ball and Wheatley, and Edward Campbell Ct. (300)

Waverly, Ky., SUNSET D. I. (Morganfield). Exec: J. S. Corbett and Ornstein Ct., 427 S. 3rd St., Louisville. (350)

KANSAS CITY TERRITORY

Arkansas

(NOTE: See also Memphis and New Orleans Territories)

Fayetteville, Ark., 71 D. I. (Springdale). Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (390)

Rogers, Ark., TWIN CITY D. I., P. O. Box 351. Exec: Harry Nichols, Ozark Ths., Inc. (300)

Siloam Springs, Ark., PARKSIDE D. I. Exec: Earl Smith. (200)

Sulphur Springs, Ark., BIG SOMBRERO AIR DOME D. I. Exec: Mrs. J. B. Coverton. (50 and Seats)

Kansas

Abilene, Kan., TRAILS END D. I. Exec: Bob and Calvin Strowig. (300)

Alton, Kan., DRIVE IN. Exec: Earl Ritchie. (98)

Anthony, Kan., STAR VUE D. I., Hwy. 160. Exec: Mrs. Hazel Droz. (275)

Arkansas City, Kan., 166 D. I., Hwy. 166. Exec: Fred Munson. (400)

Atchison, Kan., FRONTIER D. I. Exec: Charles Potter. (350)

Augusta, Kan., AUGUSTA D. I. Exec: Mrs. D. A. Bisagno, and Augusta Drive-In Th. Co. (300)

Beloit, Kan., FIESTA D. I. Exec: Mid-central Ths. (300)

Caney, Kan., DRIVE IN. Exec: C. Gregg. (316)

Chanute, Kan., NEOCHA D. I. Exec: Ray Walsh. (360)

Clay Center, Kan., SKY LINE D. I. Exec: Kenneth H. Ehret. (322)

Coffeyville, Kan. SKYLINE D. I., Hwy. 169. Exec: Tal Richardson, Box 136. (200)

Coffeyville, Kan., TAL'S D. I., Cline Rd. Exec: Tal Richardson, Box 136. (300)

Colby, Kan., COLBY D. I. Exec: Don Phillips. (350)

Columbus, Kan., CHEROKEE D. I. Exec: Stein Ths. (300)

Columbus, Kan., COLUMBUS D. I., Hwy. 69. Exec: Arthur W. Pugh. (350)

Concordia, Kan., CONCORDIA D. I. Exec: Alex Schniderman, 221 W. 18th St., Kansas City, Mo. (320)

Council Grove, Kan., CHIEF D. I. Exec: Cle Bratton. (300)

Dodge City, Kan., BOOT HILL D. I., U. S. 50 S., Box 269. Exec: Mrs. Glen A. Cooper. (325)

Dodge City, Kan., SOUTH D. I., Box 269. Exec: Mrs. Glen A. Cooper. (500)

Eldorado, Kan., STAR VU D. I. Exec: Ben Adams. (300)

Ellinwood, Kan., ELLINWOOD D. I. Exec: William Flynn, Flynn Entr., Box 47, Great Bend. (300)

Emporia, Kan., 50 SOUTH D. I. Exec: Wm. Flynn, Flynn Entr., Box 47, Great Bend. (565)

Eureka, Kan., EUREKA D. I. Exec: Aley Strowig. (300)

Fort Scott, Kan., MO-KAN D. I., P. O. Box 547. Exec: Chet Borg. (300)

Garden City, Kan., GARDEN D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (300)

Goodland, Kan., GOODLAND D. I., Hwy. 24 and 27, Box 621. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (198)

Great Bend, Kan., GREAT BEND D. I. Exec: Wm. Flynn, Flynn Entr., Box 47. (496)

Hays, Kan., HAYS D. I., P. O. Box 178. Exec: G. A. Cooper. (350)

Hiawatha, Kan., HIAWAY D. I. Exec: Mid-central Ths. (230)

Hill City, Kan., DRIVE IN. Exec: Lil Welty. (260)

Hoisington, Kan., CHEYENNE D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (468)

Hugoton, Kan., HUGOTON D. I. Exec: Merle Harris. (272)

Hutchison, Kan., AYR-VU D. I. Exec: Jay Wooten. (400)

Hutchison, Kan., IRIS D. I., R.F.D. #4. Exec: Robert Sproule. (448)

Independence, Kan., SUNSET D. I. Exec: Mid-central Ct. (306)

Iola, Kan., 54 D. I., P. O. Box 263. Exec: Jack E. Hasting. (300)

Junction City, Kan., MIDWAY D. I. Exec: Warren L. Weber. (500)

Kanopolis, Kan., LAKEVIEW D. I. Exec: Tony Blazina. (185)

Kansas City, Kan., BOULEVARD D. I., 1899 Merriam Blvd. Exec: Charles Potter, Rosedale Drive-In Th. Corp. (750)

Kansas City, Kan., KANSAS D. I., Stoney Point Rd. and Hwy. 40. Exec: Rube Finkelstein, 1701 N. 7th St., Kansas City, Mo. (1000)

Kansas City, Kan., LAKE PARK D. I. Exec: W. D. Fulton. (760)

Kansas City, Kan., LEAWOOD D. I. Exec: Glen Dickinson, Mission. (1000)

Kansas City, Kan., NEW 50 D. I. Exec: George Baker. (740)

Kansas City, Kan., SHAWNEE D. I. (Shawnee). Exec: Dickinson Ths., Mission. (1000)

Kingman, Kan., MEADE D. I., Hwy. 54. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (300)

Larned, Kan., LARNED D. I. Exec: Don Burnett, State Th. (300)

Lawrence, Kan., LAWRENCE D. I., P. O. Box 199. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (365)

Lawrence, Kan., SUNSET D. I. Exec: M. B. Landau. (390)

Leavenworth, Kan., FORT D. I., R.F.D. #4. Exec: Beverly Miller. (300)

Leavenworth, Kan., SKYLARK D. I. Exec: Durwood Ths., Kansas City, Mo. (400)

Liberal, Kan., GREAT WESTERN D. I. Exec: Ben Adams. (350)

Lyons, Kan., LYONS D. I., Box 341. Exec: Jay Wooten. (440)

Manhattan, Kan., SKY VU D. I. Exec: Mid-central Ct. (368)

Marysville, Kan., HILL TOP D. I. Exec: Eddie Henderson. (350)

McPherson, Kan., STARVIEW D. I., Box 592. Exec: V. Anderson. (393)

Meade, Kan., DRIVE IN. Exec: Laird and Bristol. (200)

Medicine Lodge, Kan., PAGEANT D. I. Exec: Roy Culley. (265)

Mount Sterling, Kan., JUDY D. I. Exec: Ed Williams, Phelps Ratliff and Tom Edwards. (400)

Neodesha, Kan., 75 AIRPORT D. I. Exec: C. E. Klock. (300)

Ness City, Kan., STAR D. I. Exec: Melvin Eichman. (200)

Newton, Kan., WEST-VUE D. I. Exec: Ray Roberson. (300)

Norton, Kan., SUNSET D. I. Exec: Fred Munson. (300)

Osage City, Kan., HILLCREST D. I. Exec: Mrs. Joyce Hitchings. (320)

Osawatomie, Kan., MIDWAY D. I. Exec: Mid-central Ths. (330)

Osborne, Kan., DRIVE IN. Exec: Melvin Eichman. (200)

Ottawa, Kan., HILLCREST D. I., 1214 S. Hickory. Exec: Glen Underwood. (300)

Parsons, Kan., PARSONS D. I. Exec: L. E. Stein, Stein Ths., Inc. (500)

Phillipsburg, Kan., DRIVE IN. Exec: R. R. Winship. (300)

Pittsburg, Kan., PITTSBURG D. I. Exec: Glen W. Dickinson, Mission. (500)

Pittsburgh, Kan., 69 D. I. Exec: Glen W. Dickinson, Mission. (550)

Plainville, Kan., SKI VUE D. I. Exec: Mrs. George Moore. (300)

Pratt, Kan., TRAIL D. I. Exec: Sol Frank. (400)

Russell, Kan., SKY VU D. I., Box 575. Exec: Dale Danielson. (350)

Salina, Kan., 81 D. I., R.F.D. #4. Exec: Glen W. Dickinson, Mission. (600)

Salina, Kan., ROCKET D. I. Exec: Sol Frank. (500)

Scott City, Kan., SCOTT CITY D. I. Exec: Fred Munson. (225)

Smith Center, Kan., DRIVE IN. Exec: Dan Blair. (300)

Stockton, Kan., PARK D. I. Exec: Merle Swank. (280)

Syracuse, Kan., RANCHO 50 D. I. Exec: Frank Northrup and Marvin Ellis. (300)

Topeka, Kan., CHIEF D. I. Exec: J. E. Pennington. (800)

Topeka, Kan., CLOVERLEAF D. I. Exec: John Basham, Jr., Community Ths., Inc. (700)

Topeka, Kan., COMMUNITY D. I. Exec: John Basham, Jr., Community Ths., Inc. (700 and 50 Walk-In Seats)

Topeka, Kan., CORRAL D. I. Exec: John Basham, Jr., Community Ths., Inc. (750)

Topeka, Kan., STARLITE D. I. Exec: John Basham, Jr., Community Ths., Inc. (400)

Ulysses, Kan., ULYSSES D. I. Exec: C. V. Crocker. (295)

Wakeeney, Kan., Y D. I. Exec: Melvin Eichman and Courtney Bros. (325)

Wellington, Kan., CHISHOLM D. I. Exec: Sol Frank. (400)

Wellington, Kan., SUNSET D. I. Exec: Dewey Utterback and Homer Humbert. (300)

Wichita, Kan., AIRPORT D. I., 3100 S. Oliver. Exec: Merle Barnes. (600)

Wichita, Kan., 81 D. I., 6250 N. Broadway. Exec: O. F. Sullivan. (500)

Wichita, Kan., 54 D. I., 6251 E. Kellogg. Exec: O. F. Sullivan. (650)

Wichita, Kan., MEADOWLARK D. I. Exec: Mrs. T. H. Slothower. (868 and 300 Seats)

Wichita, Kan., WEST PORT D. I. Exec: Al McClure. (370)

Wichita, Kan., PAWNEE D. I., 2400 S. Broadway. Exec: Al McClure. (450)

Wichita, Kan., 42 SKY VUE D. I., 4308 Southwest Blvd., Box 1542. Exec: Sproule and Foy. (500)

Wichita, Kan., TERRACE D. I. Exec: George Sproule and Loren Jones. (650)

Winfield, Kan., WINFIELD D. I. Exec: Fred Munson. (325)

Missouri

(NOTE: See also Des Moines, Memphis and Saint Louis Territories)

Aurora, Mo., SUNSET D. I., P. O. Box 302. Exec: Ralph Hough, Jr. (200)

Bolivar, Mo., LUCKY 13 D. I. Exec: W. O. Woody. (300)

Boonville, Mo., STARLITE D. I. Exec: Tony Fenton. (250)

Branson, Mo., SHEPHERD OF HILLS D. I. Exec: Glen Dickinson, Mission, Kan. (100)

Brookfield, Mo., LIN-VU D. I. Exec: Elmer Bills, Bert Simmey and Frank Weary. (300)

Butler, Mo., BUTLER D. I. Exec: Chet Borg. (250)

Camdenton, Mo., CAMDENTON D. I., Box 103. Clifford Hough. (237)

Cameron, Mo., CAMERON D. I. Exec: W. C. Silver and Red-X Oil Co. (400)

Carthage, Mo., 66 D. I. Exec: Bill Bradfield. (400 and 18 Seats)

Carthage, Mo., SUNSET D. I. Exec: Clyde Larsen. (300)

Cassville, Mo., GREEN HILLS D. I. Exec: Glen Hall. (380)

Chillicothe, Mo., 65 D. I. Exec: Jones and Saccaro. (274)

Clinton, Mo., CLINTON D. I. Exec: Commonwealth Ths., 215 W. 18th St., Kansas City. (240)

Eldon, Mo., CORRAL D. I. (Formerly Eldon). Exec: Tom Edwards and Frank Plumlee. (300)

Excelsior Springs, Mo., PINES D. I. (Formerly Spa Motor Movie), P. O. Box 812. Exec: Commonwealth Ths., 215 W. 18th St., Kansas City. (300)

Gravois Mills, Mo., GRAVOIS D. I. Exec: Glen Jones. (—)

Harrisonville, Mo., CASS COUNTY D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (220)

Henrietta, Mo., HIGHWAY 13 D. I. Exec: Frank Weary, Jr. (300)

Jefferson City, Mo., 50 HI WAY D. I. Exec: Beverly Miller. (375)

Jefferson City, Mo., SKYLARK D. I. Exec: Durwood Ct., Kansas City. (500)

Joplin, Mo., CREST D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (500)

Joplin, Mo., TRI-STATES D. I., P. O. Box 215. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (500)

Kansas City, Mo., CREST D. I. (Hickman Mills). Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (1000)

Kansas City, Mo., HEART D. I. Exec: Winoko Corp. (1000)

Kansas City, Mo., HIWAY 40 D. I. (Independence). Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (800)

Kansas City, Mo., RIVERSIDE D. I. (Parkville). Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (800)

Kirksville, Mo., SILVER STAR D. I., 207 E. Pierce. Exec: Day Mangus. (496)

Lamar, Mo., BARCO STARVUE D. I. Exec: Harley Fryer. (200)

Lees Summit, Mo., TERRACE D. I. Exec: Earl Jameson and Sam Abend. (250)

Lexington, Mo., STARLITE AIR DROME D. I. Exec: Paul Neal, 405 S. 24th St. (100 and Seats)

Marceline, Mo., STAR D. I. Exec: Star Th. Corp. (300)

Marshall, Mo., PARKSIDE D. I. Exec: J. T. Ghosen. (310)

Maryville, Mo., STARLITE DUDE RANCH D. I. Exec: C. E. Cook. (350)

Memphis, Mo., AIRWAY D. I. Exec: C. W. Locke. (300)

Milan, Mo., HI 5 D. I. Exec: Shelby Armstrong. (182)

Moberly, Mo., HI WAY 63 D. I. Exec: Elmer Bills. (300)

Monett, Mo., OZARK D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (300)

Mound City, Mo., HOLT D. I. Exec: Sprague and Van Winkle. (200)

Mount Vernon, Mo., AIRWAY D. I. Exec: Elson Roller. (150)

Neosho, Mo., EDGEWOOD D. I. Exec: Hugh Gardner. (450)

Nevada, Mo., TRAIL D. I. Exec: Jay Wooten. (275)

Osage Beach, Mo., GRAND GLAIZE D. I. Exec: H. L. Frazee. (250)

St. Joseph, Mo., BELT D. I., Belt Hwy. Exec: Durwood Ct., Kansas City. (600)

St. Joseph, Mo., COWTOWN D. I. Exec: Beverly Miller. (350)

St. Joseph, Mo., SKYLARK D. I., Belt Hwy. and and Farson. Exec: Durwood Ct., Kansas City. (518)

Sedalia, Mo., 50 D. I., R.R. #3. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (325)

Seymour, Mo., OWEN D. I. Exec: George Owen. (150)

Sparta, Mo., ALVIN D. I. (Bruner), Nr. Christian Co. Line. Exec: R. L. Honeyman, Seymour. (150)

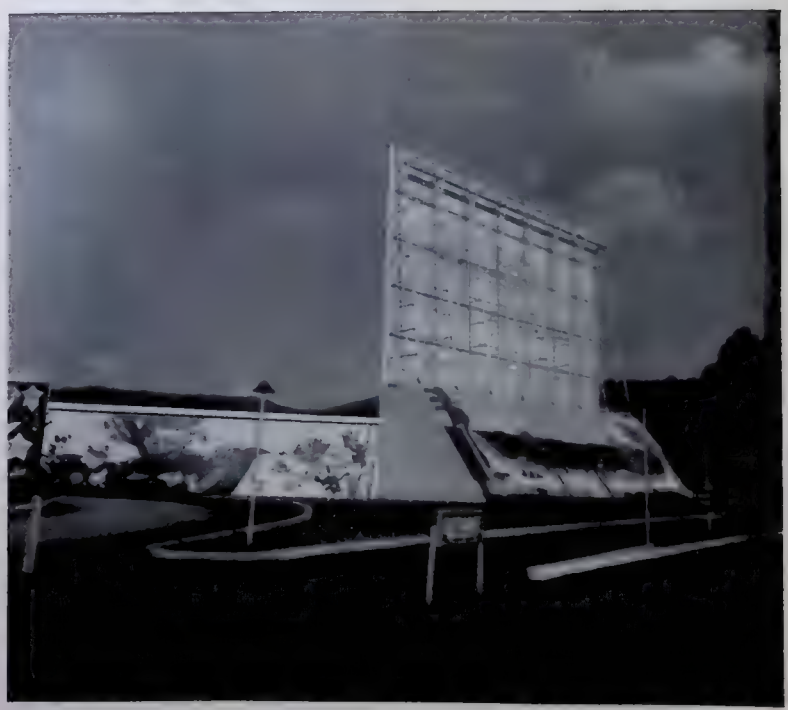
Springfield, Mo., SPRINGFIELD D. I., 1943 E. Sunshine Ave. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (600)

Springfield, Mo., SUNSET D. I., P. O. Box 1305, S. S. Sta. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (520)

Tarkio, Mo., DRIVE IN. Exec: Virgil Harbison. (300)

Trenton, Mo., GRAND-VU D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (230)

IN ANOTHER VIEW OF THE HOLIDAY outdoor theatre, it is possible to see the attractive hand painted murals on the fence and the screen tower. At night the murals are lighted by recessed fixtures.



Unionville, Mo., SKY-VUE D. I. Exec: Mrs. George Summers. (248)

Warrensburg, Mo., STARLET D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (400)

Webb City, Mo., WEBB CITY D. I. Exec: Howard Larsen. (400)

LOS ANGELES TERRITORY

Arizona

Bisbee, Ariz., FORT APACHE D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson. (400)

Casa Grande, Ariz., DESERT D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Chandler, Ariz., MUSTANG D. I. Exec: Joe Woods. (350)

Coolidge, Ariz., PRINCE D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Douglas, Ariz., FORT COCHISE D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson and Dinmos and Assoc. (500)

Eloy, Ariz., "Y" D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Flagstaff, Ariz., DRIVE IN. Exec: Northern Arizona Ths., and Harry L. Nace Ct., Inc., 2730 N. Central Ave., Phoenix. (500)

Glendale, Ariz., RANCHO D. I., P. O. Box 1042. Exec: Harry L. Nace Ct., 2730 N. Central Ave., Phoenix. (450)

Globe, Ariz., APACHE D. I. Exec: O. K. Leonard. (300)

Mesa, Ariz., PIONEER D. I., Rt. 3, Box 697C. Exec: H. L. Nace Ct., 2730 N. Central Ave., Phoenix. (692)

Nogales, Ariz., EL RANCHO D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson. (400)

Phoenix, Ariz., ACRES D. I. Exec: H. L. Nace Ct., 2730 N. Central Ave. (650)

Phoenix, Ariz., CINEMA PARK D. I., 800 E. Missouri Ave. Exec: Fred Crocket. (800)

Phoenix, Ariz., INDIAN D. I., Indian School Rd. and 27th Ave. Exec: Arizona-Paramount Corp., Orpheum Th. Bldg. (500)

Phoenix, Ariz., PESO D. I. Exec: H. L. Nace Ct., 2730 N. Central Ave. (800)

Phoenix, Ariz., PHOENIX D. I., 3600 E. Van Buren. Exec: H. L. Nace Ct., 2730 N. Central Ave. (500)

Phoenix, Ariz., RODEO D. I. Exec: M.G.A. Corp., and Judy Poynter, 1914 S. Vermont, Los Angeles 7, Cal. (500)

Phoenix, Ariz., SILVER DOLLAR D. I. Exec: B. J. Leavitt, and Nace and Wickersham. (550)

Prescott, Ariz., SENATOR D. I., 804 Country Club Dr. Exec: Jay W. Barton, and Exhibitors Serv. (350)

Safford, Ariz., SAFFORD D. I. Exec: Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (200)

Superior, Ariz., SUPERIOR D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Tucson, Ariz., BILTMORE D. I., 600 W. Kelso St. Exec: Airmont Motor Vu Ths., Inc., and Theatre Serv., 1583 W. Washington. (525)

Tucson, Ariz., CACTUS D. I., Rt. 8, Box 839. Wes Becker. (600)

Tucson, Ariz., FIESTA D. I. Exec: Wes Becker, and Prince Ths., Inc. by Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal. (400)

Tucson, Ariz., MIDWAY D. I., 4500 E. Speedway. Exec: F. Bernard, Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal. (692)

Tucson, Ariz., RODEO D. I., 201 E. Pennsylvania. Exec: Dallas Day, Rodeo Drive In Th. Corp. (600)

Winslow, Ariz., TONTO D. I. Exec: H. L. Nace Ct., 2730 N. Central Ave., Phoenix. (300)

Yuma, Ariz., MESA D. I., 8914 4th Ave. Exec: B. J. Leavitt. (340)

Yuma, Ariz., SILVER SPUR D. I. Exec: B. J. Leavitt and Ash Kins. (800)

California

(NOTE: See also San Francisco Territory)

Arlington, Cal., MAGNOLIA D. I., P. O. Box 2. Exec: Santa Fe Th. Corp., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (400)

Bakersfield, Cal., "99" D. I., 4444 Pierce Rd. Exec: Gannon and Gannon, and Star Th. Corp. and Exhibitors Serv., Inc., 1977 S. Vermont, Los Angeles. (636)

Bakersfield, Cal., SOUTH CHESTER D. I., S. Chester Ave. at Hwy. 99. Exec: Gannon and Gannon, and Exhibitors Service, Inc., 1977 S. Vermont, Los Angeles. (600)

Bakersfield, Cal., TERRACE D. I., 300 Terrace. Exec: Scott Ths., Inc., and Earl J. Johnson Ths., 1968 S. Vermont, Los Angeles. (640)

Beaumont, Cal., CHERRY PASS D. I. (Banning). Exec: Benu-Bann Entr. (400)

Blythe, Cal., DRIVE IN. Exec: Bob Dunagon. (500)

Bostonia, Cal., AERO D. I. Exec: Thentre Service Corp. (570)

Burbank, Cal., PICKWICK D. I., 1100 Alameda W. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (800)

Burbank, Cal., SAN VAL D. I., 2720 Wiona St. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (813)

Chula Vista, Cal., HARBOR D. I., National Ave., Hwy. 101. Exec: Harbor Drive-In Corp., and T. P. Huntington. (685)

Clearwater, Cal., ROADIUM D. I., 14711 S. Paramount Blvd. Exec: Modern Amuse. Co., and Jim Finkler, 1914 S. Vermont Ave., Los Angeles 7. (850)

Compton, Cal., COMPTON D. I., 2111 E. Rosecrans Blvd. Exec: Cal-Pac Drive-In Ths., Robertson Blvd., Los Angeles 36. (900)

Culver City, Cal., (Los Angeles), STUDIO D. I., 5250 Repulveda Blvd. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (700)

Cypress, Cal., CINA-CAR D. I., 6612 Lincoln Blvd. Exec: J. W. Montgomery. (600)

El Monte, Cal., EL MONTE D. I., Lower Azusa Rd. and Ellis Lane, Box 449. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (874)

El Monte, Los Angeles Co., Cal., STARLITE D. I., 2540 N. Rosemend Blvd. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (850)

Escondido, Cal., ESCONDIDO D. I. Exec: Exhibitor's Service, 1977 S. Vermont, Los Angeles. (300)

Gardena, Cal., ROADIUM D. I., 2500 Redondo Beach Blvd. Exec: Pioneer Ths., Inc., and James Finkler, 1914 S. Vermont Ave., Los Angeles 7. (480)

Gardena, Cal., VERMONT D. I., 17737 S. Vermont, Box 466. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (875)

Goleta, Cal., AIRPORT D. I. Exec: Sherrill Corwin, Airport Drive-In Corp. (750)

Hemet, Cal., HEMACINTO D. I. Exec: Sam Steifel. (390)

Highland, Cal., BASELINE D. I., 1785 Baseline. Exec: Earle J. Johnson, 1968 S. Vermont, Los Angeles. (700)

Huntington Park, Cal. (Los Angeles), GAGE D. I. (Bell Gardens), 6805 E. Gage Ave. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (999)

Imperial, Cal., MOTOR VU D. I., Box 117. Exec: El Centro Drive-In Th., and Affiliated Ths., 1069 Market St., San Francisco. (500)

Indio, Cal., COACHELLO D. I. Exec: F and E Th. Co., and Affiliated Ths., 1069 Market St., San Francisco. (400)

Inglewood, Cal., CENTINELA D. I. (Los Angeles). Exec: Aladdin Ths., and Berman Bros. (850)

Inglewood, Cal., CENTURY D. I. (Los Angeles), 3560 W. Century Blvd. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (980)

Lakewood, Cal., LAKEWOOD D. I. (Long Beach), 2100 E. Carson St. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (950)

Lamont, Cal., SOUTH LAMONT D. I. Exec: Orlando Karr, and James Finkler, 1914 S. Vermont Ave., Los Angeles 7. (480)

Lemon Grove, Cal., LEMON BOWL CINEMA-DINE D. I., Box 85, Cor. Federal Blvd. and Central Ave. Exec: Sam Russo, Suburban Th., Inc. (612)

Lenwood, Cal., BAR-LEN D. I. Exec: Western Amuse. Co., Los Angeles 36. (425)

Loma Linda, Cal., TRI-CITY D. I., R. 1, Box 480, Hwy. 99. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (724)

Long Beach, Cal., CIRCLE D. I., 1633 Ximeno Ave. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (932)

Los Angeles, Cal., FLORAL D. I. (Belvedere). Exec: Aladdin Ths., and Berman Bros. (775)

Los Angeles 36, Cal., GILMORE D. I., 6201 W. 3rd and Fairfax Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd. (650)

Los Angeles 5, Cal., HARBOR D. I., 843 S. Harvard. Exec: Thrifty Th. Corp., and Judy Poynter, 1914 S. Vermont 7. (596)

Los Angeles 27, Cal., LOS FELIZ D. I., 3105 Riverside Dr. Exec: Los Feliz Drive-In Ths., Inc., and Judy Poynter, 1914 S. Vermont 7. (500)

Los Angeles, Cal., OLYMPIC D. I. (W. Los Angeles). Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd. (745)

Los Angeles, Cal., TWIN VU D. I., 15201 S. Figueron. Exec: Clinton L. Glenny, and Judy Poynter, 1914 S. Vermont 7. (268)

Monrovia, Los Angeles Co., Cal., BIG SKY D. I., 1044 E. Huntington Dr. Exec: Big Sky Drive-In Ths., Inc., Tommy Charack. (850)

Monrovia, Los Angeles Co., Cal., EDWARDS D. I. (Arcadia), 4469 E. Live Oak. Exec: Edwards Ths. Ct., 4907 N. Huntington Dr., Los Angeles. (750)

North Hollywood, Cal., VICTORY D. I. (Van Nuys), 13037 Victory Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (825)

Norwalk, Cal., DRIVE IN. Exec: Comet Th. Entr. (1000 Under Construction)

Oceanside, Cal., MIDWAY D. I., Fall Brook Rd. Exec: Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood. (508)

Ontario, Cal., VALLEY D. I., Valley Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (650)

Orange, Cal., ORANGE D. I., Placentia Blvd. and Rt. 101. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (788)

Palm Springs, Cal., SUN AIRE D. I. (Cathedral City). Exec: Ben Bronstein. (480)

Pasadena, Cal., HASTINGS D. I., Foothill and Rosemead. Exec: Judy Poynter, 1914 S. Vermont, Los Angeles 7. (1315)

Reseda, Cal., RESEDA D. I., Reseda and Vanowen Blvd. Exec: Cal-Pac Drive-In Ths., 143 S. Robertson Blvd., Los Angeles 36. (740)

Rialto, Cal., FOOTHILL D. I., 655 E. Foothill Blvd. Exec: W. A. Tharp, and Exhibitor's Service, 1977 S. Vermont, Los Angeles 7. (750)

Ridgecrest, Cal., CREST D. I. Exec: Everett Cummings. (500)

Riverside, Cal., RUBIDOUX D. I., Opal and Mission Blvds. Exec: Roy Hunt. (738)

San Bernardino, Cal., MT. VERNON D. I., 632 S. Mt. Vernon Ave. Exec: Judy Poynter, 1914 S. Vermont, Los Angeles 7. (580)

San Diego, Cal., CAMPUS D. I., 6147 El Cajon Blvd. Exec: Sam Russo. (530)

San Diego, Cal., MIDWAY D. I., 3901 Midway Dr. Exec: Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood. (535)

San Diego, Cal., RANCHO D. I., Federal Blvd. and Euclid, Box 728. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (745)

San Luis Obispo, Cal., SUNSET D. I. Exec: James Finkler, 1914 S. Vermont, Los Angeles 7. (500)

San Pedro, Cal., SAN PEDRO D. I., 1575 N. Gaffey Ave. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (900)

Santa Ana, Cal., PAULO D. I., 14361 Paularino. Pacific Drive-In Ths. Corp. (750)

Santa Maria, Cal., PARK AIRE D. I., E. Whitney, P. O. Box 186. Exec: Charles Pasquinini. (500)

Santa Paula, Cal., SANTA PAULA D. I., 224 S. Barkla. Exec: Santa Paula Drive-In Ths., and J. Finkler, 1914 S. Vermont, Los Angeles 7. (450)

Southgate, Cal., SOUTHGATE D. I., Firestone Blvd. and Atlantic. Exec: Berman Ths. (830)

Sunland, Cal., SUNLAND D. I. Exec: Edwards Ths. Ct., 4907 N. Huntington Dr., Los Angeles. (550)

Taft, Cal., SUNSET D. I., P. O. Box 426. Exec: James Parks, Sunset Drive-In Ths. (628)

Van Nuys, Cal., VAN NUYS D. I., 15040 Roscoe Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (800)

Ventura, Cal., "101" D. I., Hwy. 101. Exec: Lou Berman. (777)

Victorville, Cal., JOSHUA D. I. Exec: Western Amuse. Co. (398)

Whittier, Cal., WHITTIER D. I. (Pico), 8462 E. Whittier Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36, and Western Amuse. Co. (1240)

Nevada

(NOTE: See also San Francisco Territory)

Las Vegas, Nev., MOTOR VU D. I., P. O. Box 1791. Exec: Howard Cahoon. (566)

MEMPHIS TERRITORY

Arkansas

(NOTE: See also Kansas City and New Orleans Territories)

Arkadelphia, Ark., SKYVUE D. I. Exec: Rowley-United Inc. Ct., 363 S. 2nd St., Memphis, Tenn. (350)

Batesville, Ark., WHITE RIVER D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (224)

Benton, Ark., BIG FOUR D. I., Box 49. Exec: H. T. Crawford. (400)

Blytheville, Ark., SKYLINE D. I. Exec: Westley and Tom Bloomer. (380)

Blytheville, Ark., STARVUE D. I. Exec: Rodgers Ths., Inc., 230 8th St., Cairo, Ill. (450)

Booneville, Ark., BEL-AIR D. I. Exec: E. W. Savage. (195)

Camden, Ark., CAMDEN D. I. Exec: R. W. Gardy, and Emma Rater. (400)

Camden, Ark., MESA D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (700)

Conway, Ark., 65 D. I. Exec: C. J. Collier. (306)

Corning, Ark., DRIVE IN. Exec: Gordon Hutchins. (300)

Dermott, Ark., TWIN CITY D. I. Exec: Y. J. Lee. (250)

El Dorado, Ark., #7 D. I., P. O. Box 1106, Little Rock. Exec: Busby-Jones. (450)

Fordyce, Ark., DRIVE IN. Exec: K. Lee Williams. (Under Construction)

Forrest City, Ark., SKYWAY D. I., Hwy. 70. Exec: L. F. Haven. (450)

Fort Smith, Ark., 71 D. I., Jenny Lind Rd., P. O. Box D, Sta. A. Exec: William L. Spicer. (300)

Fort Smith, Ark., SKYVUE D. I. Exec: J. F. Brown, Memphis, Tenn. (497)

Fort Smith, Ark., 22 D. I., Hwy. 22, Box 217. Exec: Carl Burton. (600)

Gassville, Ark., STARLITE D. I., Box 77. Exec: Bob Brixey. (200)

Glenwood, Ark., GLENWOOD D. I., Hwy. 8. Exec: James Eggerman. (209)

Glenwood, Ark., SUNSET D. I. Hwy. 7. Exec: (Unknown). (Under Construction)

Gurdon, Ark., DRIVE IN. Exec: K. Lee Williams. (400)

Hamburg, Ark., SUNSET D. I. Exec: Charles Carpenter, Jr. (300)

Harrison, Ark., O-ZARK D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (260)

Hope, Ark., HOPE D. I. Exec: D. D. Harrison. (250)

Hot Springs, Ark., 70 D. I., Little Rock Hwy. Exec: Clyde Wilson. (400)

Hot Springs, Ark., SUNSET D. I. Exec: Mrs. Jessie Howe. (350)

Hot Springs, Ark., WHEATLEY D. I., Gate Links Rd. Exec: H. E. Wheatley. (200)

Hughes, Ark., 79 D. I. Exec: K. H. Kinney. (400)

Jacksonville, Ark., JACKSONVILLE D. I. Exec: P. W. Dupree, Jr., and Exhibitor's Serv., 502 S. 2nd St., Memphis, Tenn. (285)

Jonesboro, Ark., SKYVUE D. I., 1304 S. Main St. Exec: Robert Lowry, and Exhibitor's Service, 502 S. 2nd St., Memphis, Tenn. (300)

Jonesboro, Ark., STARLITE D. I. Exec: Robert B. Lowry, and Exhibitor's Service, 502 S. 2nd St., Memphis, Tenn. (600)

Lepanto, Ark., LEPANTO D. I. Exec: W. C. Sumpter. (390)

Little Rock, Ark., ASHER D. I., Hwy. 70 and Asher Ave. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (650)

Little Rock, Ark., DRIVE IN. Exec: Arkansas Amuse. Co. (500)

Little Rock, Ark., PINES D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (500)

Little Rock, Ark., RAZORBACK D. I., Barber Ave. and 21st St. Exec: Arkansas Amuse. Co. (476)

Little Rock, Ark., ROSE D. I., P. O. Box No. 6. Exec: G. W. Jones. (Under Construction) (1,000)

Little Rock, Ark., SCENIC D. I. Exec: Roy Cochran. (500)

Magnolia, Ark., SUNSET D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (400)

Marked Tree, Ark., POINSETT D. I. Exec: J. E. Singleton. (400)

Mena, Ark., MENA D. I. Exec: Wren Ths. (150)

Newport, Ark., RAZORBACK D. I., Hwy. 67 North. Exec: Mr. and Mrs. Curtis Hubbell. (400)

Newport, Ark., SKYLARK D. I. Exec: Mrs. Artemis Gray. (300)

North Little Rock, Ark., DRIVE IN, Hwy. 70. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (500)

Paragould, Ark., SUNSET D. I., P. O. Box 477. Exec: Orris F. Collins. (600)

Paris, Ark., PARIS D. I. Exec: A. N. Zeiler, and Exhibitor's Service, 502 S. 2nd St., Memphis, Tenn. (260)

Pine Bluff, Ark., PINE MOVIES D. I. Exec: Bonner and Stringer. (600)

Pine Bluff, Ark., 65 D. I. Exec: C. F. Bonner. (200)

Pine Bluff, Ark., ZEBRA D. I. Exec: United Ths. Corp. (700 Under Construction)

Pocahontas, Ark., SKYLARK D. I., P. O. Box 289. Exec: Henley Smith. (450)

Prescott, Ark., PRESCOTT D. I. Exec: C. R. Gray and Eugene Hale. (300)

Russellville, Ark., 64 D. I. Exec: Henley Smith. (345)

Searcy, Ark., DIXIE D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (450)

Stuttgart, Ark., STARVUE D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (400)

Trumann, Ark., TRUMANN D. I. Exec: J. E. Singleton. (250)

West Helena, Ark., AIRVUE D. I. Exec: J. L. Anderson. (200)

West Memphis, Ark., SUNSET D. I., P. O. Box 121. Exec: Robert Kilgore. (400)

Wynne, Ark., HAVEN D. I. Exec: Imperial Th. Co. (300)

Kentucky

(NOTE: See also Cincinnati, Indianapolis and Saint Louis Territories)

Benton, Ky., KENTUCKY LAKE D. I. Exec: J. W. Lyles. (300)

Calvert City, Ky., SUNSET D. I. Exec: Russell Wilson. (250)

Hardin, Ky., LAKEVIEW D. I. Exec: Neal Starks and Roy E. Clark. (340)

Henderson, Ky., HI-Y D. I. Exec: B. D. Bright. (300)

Kuttawa, Ky., LYON CITY D. I. Exec: Exhibitor Serv., 502 S. 2nd St., Memphis, Tenn. (150)

Mayfield, Ky., CARDINAL D. I. Exec: Ned Greene, Legion Th. Co. (—)

Mayfield, Ky., 45 D. I. Exec: Ned Greene, Legion Th. Co. (300)

Princeton, Ky., SKYWAY D. I. Exec: B. G. Moore and J. J. Rosenthal. (300)

Mississippi

(NOTE: See also New Orleans Territory)

Aberdeen, Miss., WESTWOOD D. I., P. O. Box 133. Exec: Charles Treas. (400)

Amory, Miss., 41 D. I. Exec: J. Carter. (250)

Booneville, Miss., 45 D. I. Exec: W. H. Brown. (300)

Clarksdale, Miss., SKYLARK D. I. Exec: Henley Smith and Clark Shivley. (450)

Cleveland, Miss., CHIEF D. I. Exec: C. J. Collier, B. F. Jackson. (550)

Columbus, Miss., STATE D. I. Exec: R. B. Dossett. (300)

Corinth, Miss., SKYLARK D. I. Exec: Frank Simmons, Jr. (550)

Grenada, Miss., WHITEHAVEN D. I. Exec: Imogene D. Carter. (350)

Houston, Miss., DRIVE IN. Exec: Thomas E. Lloyd. (208)

Indianola, Miss., MOJAC D. I. Exec: B. F. Jackson and Mrs. P. E. Morris. (320)

Kosciusko, Miss., STARLIGHT D. I., P. O. Box 350. Exec: Louis, George L. and Charles W. Lackey. (350)

Leland, Miss., ANNE D. I. Exec: J. C. Noble. (—)

Louisville, Miss., LOUISVILLE D. I. Exec: C. L. Clark. (190)

Oxford, Miss., REBEL D. I. Exec: J. R. Adams. (300)

Tupelo, Miss., 78 D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (500)

Starkville, Miss., LAKESIDE D. I. Exec: E. H. Anderson and H. B. Dorsett. (350)

Winona, Miss., WINONA D. I. Exec: C. O. Bishop. (400 Under Construction)

SAID TO BE THE FIRST air-cooled drive-in in the United States, the Cinema-Park, Phoenix, Ariz., makes use of five helicopter blades to propel 500,000 cubic feet of water-impregnated air over the 10 acre ozoner. The misty, circulated air does the cooling job. Using the same equipment as that used in citrus groves to combat frost, the air-conditioned outdoor theatre is a success with patrons.

Missouri

(NOTE: See also Des Moines, Kansas City and Saint Louis Territories)

Hayti, Mo., 61 D. I. Exec: John Mohrstadt. (425)

Kennett, Mo., TOMMIES D. I. Exec: H. E. Boyd. (450)

Lilbourn, Mo., MIDWAY D. I. (New Madrid). P. O. Box 67. Exec: Norvin Garner. (—)

Tennessee

(NOTE: See also Atlanta Territory)

Centerville, Tenn., BEL-AIR D. I. Exec: Charles Fussell, and Exhibitor's Service, 502 S. 2nd St., Memphis. (250)

Covington, Tenn., DRIVE IN. Exec: Ruffin Amuse. Co. (572)

Covington, Tenn., RACO D. I. Exec: Ruffin Amuse. Co. (340)

Dickson, Tenn., BROADWAY D. I. Exec: J. C. Brown, Jr., and Exhibitor's Service, 502 S. 2nd St., Memphis. (240)

Dresden, Tenn., DRESDEN D. I. Exec: Unknown. (—)

Dyersburg, Tenn., FUNLAND D. I. Exec: Moreau E. Rice, Brownsville. (525)

Hohenwald, Tenn., HIGHLANDS D. I. Exec: R. M. Lee, and Exhibitor's Service, 502 S. 2nd St., Memphis. (300)

Humboldt, Tenn., SKYWAY D. I. Exec: Crescent Amuse. Co., 416 Church St., Nashville. (300)

Jackson, Tenn., JAXON D. I., P. O. Box 1036. Exec: Douglas Pierce, Box 268, Pocahontas, Ark. (500)

Jackson, Tenn., MET-N-MOV D. I., Hwy. 45. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis. (166)

Lexington, Tenn., LACO D. I. Exec: Guy B. Amis. (400)

Martin, Tenn., SUNSET D. I. Exec: Ruffin Amuse. Co., Covington. (445)

Memphis, Tenn., BELLVUE D. I., 2350 S. Bellevue. Exec: Kemmons Wilson and Assoc. (500)

Memphis, Tenn., FRAYSER D. I. (Memphis 10). Exec: Malco Ths., Inc., 89 Beale Ave. (500)

Memphis, Tenn., LAMAR D. I. Exec: Abner and Dave Labowitz. (500)

Memphis, Tenn., LINCOLN D. I. Exec: N. Z. Cook and F. L. Abernathy. (500)

Memphis, Tenn., SKYVUE D. I., 2855 Park Ave. Exec: Harold Roth, 944 Sterick Bldg. (750)

Memphis, Tenn., SUMMER D. I., 5150 Summer Ave., Rt. 6, Box 445. Exec: Kemmons Wilson and Louis Weaver. (670)

Milan, Tenn., DRIVE IN. Exec: Rockwood Amuse. Co. (350)

Paris, Tenn., SKY-VUE D. I. Exec: Robert T. Lax, J. R. Hayes, and W. H. Wilson. (226)

Paris, Tenn., SUNDOWN D. I. Exec: I. W. Boden. (200)

Union City, Tenn., STARLIGHT D. I., 315 Lee St. Exec: A. B. Garrett. (400)

Waverly, Tenn., LAKE D. I. Exec: Nathan Flexer, and Exhibitor's Service, 502 S. 2nd St., Memphis. (316)

Wynnburg, Tenn., LAKE COUNTY D. I. Exec: J. W. Morrison. (600)

MILWAUKEE TERRITORY

Michigan

(NOTE: See also Detroit Territory)

Breitung Township, Mich., TRI-CITY D. I. Exec: Thomas Th. Co. (400)

Chassell, Mich., HIAWATHA D. I. Exec: Peninsula Drive-In, Inc. (400)

Escanaba, Mich., HILL TOP D. I. Exec: Rex Coulter and Delpt Ths., Inc. (500)

Ironwood, Mich., DRIVE IN. Exec: Ironwood Amuse. Corp. (400)

Ishpeming, Mich., EVERGREEN D. I. Exec: Evergreen Entr., Inc. (300)

Rapid River, Mich., B AND D D. I. Exec: Frank Chivers. (250)

Sault Ste Marie, Mich., SOO D. I. Exec: Soo Amuse. Co. (700 Under Construction)

Wisconsin

(NOTE: See also Minneapolis Territory)

Antigo, Wisc., ANTIGO OUTDOOR D. I. Exec: Antigo Drive-In Th., Inc. (400)

Beaver Dam, Wisc., BEAVER DAM D. I. Exec: S and M Ths., 161 W. Wisconsin Ave., Milwaukee. (250)

Butler, Wisc., VICTORY D. I. Exec: Delft Ths., Inc., P. O. Box 423. (1000)

Delavan, Wisc., LAKES OUTDOOR D. I. Exec: J. Sikes, R. Lawler, and Lakes Outdoor Th. Co. (600)

Elm Grove, Wisc., BLUEMOUND D. I., Bluemound Rd., Box 285. Exec: Midwest Drive-In Ths., Inc., and Philip Smith Ct., 82 Newberry St., Boston, Mass. (970)

Ephriam, Wisc., SKYWAY D. I. Exec: Elton Voeks, Lake Th., Baileys Harbor, and Theatre Serv. Co. (300)

Fond du Lac, Wisc., LAKE PARK OUTDOOR D. I., 51 W. Scott. Exec: Lake Park Outdoor, Inc., 1116 Empire Bldg., Milwaukee, and Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (600)

Franklin, Milwaukee Co., Wisc., 41 TWIN OUTDOOR D. I. Exec: Standard Ths. Mgt. Corp. 212 W. Wisconsin Ave., Milwaukee. (1900)

Genoa City, Wisc., HI-WAY D. I., Hwy. 73. Exec: (Unknown). (Under Construction)

Grafton, Wisc., PORT OUTDOOR D. I. Exec: Erwin L. Nowak. (550)

Green Bay, Wisc., 41 D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (750 Under Construction)

Green Bay, Wisc., STARLITE D. I., Cass Near Beckers Corners, P. O. Box 161. Exec: Badger Outdoor Th. Co., 411 Loeb Arcade, Minneapolis, Minn. (550)

Janesville, Wisc., HI-WAY 26 D. I., Hwy. 26. Exec: Badger Outdoor Th. Co., 411 Loeb Arcade, Minneapolis, Minn. (500)

Janesville, Wisc., MID-CITY D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (859)

Jefferson, Wisc., HIWAY 18 D. I. Exec: National Amuse. Co. (638 Under Construction)

Kenosha, Wisc., KENO FAMILY D. I., Hwy. 42, Jct. "T", So. Sheridan Rd. Exec: S. J. Papas, Keno Family Drive-In Th., Inc. (750)

Kenosha, Wisc., MID-CITY D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (754)

Lake Delton, Wisc., DELTON OUTDOOR D. I., R. R .#1. Exec: Sauk Outdoor Th. Corp. (Unity Ct.). (375)

Little Chute, Wisc., DRIVE IN. Exec: Harry Melcher and Unity Ct. (800 Under Construction)

Madison, Wisc., BADGER OUTDOOR D. I., Route 1. Exec: Angelo Porchetta, Madison 20th Century Ths. Corp., 1324 W. Wisconsin Ave., Milwaukee. (650)

Madison, Wisc., DRIVE IN. Exec: Unity Ths. (1000 Under Construction)

Manitowoc, Wisc., LAKE-VUE D. I. Exec: Roger Reinert, Majestic Th., Algoma, and Tripler Amuse. Co. (450)

Marinette, Wisc., 64 OUTDOOR D. I. Exec: Martin Thomas, Braumart Th., Iron Mountain, Mich. (450)

Marshfield, Wisc., 10/13 D. I. Exec: Adler Th. Co., and Theatres Service Co. (450)

Marshfield, Wisc., PARKWAY D. I. Exec: Walter Maxwell. (300)

Monroe, Wisc., DRIVE IN. Exec: Robert Goetz. (300 Under Construction)

Neenah, Wisc., VALLEY 41 D. I., P. O. Box 10. Exec: S and M Ths., Inc., 161 W. Wisconsin Ave., Milwaukee. (485)

New Berlin, Wisc., HWY. 15 D. I., Hwy. 15. Exec: National Drive-In, Inc. (640)

Oshkosh, Wisc., OUTDOOR 44 D. I. Exec: S and M Ths., Inc., 161 W. Wisconsin Ave., Milwaukee, and Ben Marcus. (420)

Platteville, Wisc., HIWAY 80 D. I. Exec: (Unknown). (350 Under Construction)

Portage, Wisc., 51-16 D. I. Exec: Portea Co., Frank J. McWilliams. (350)

Racine, Wisc., WESTGATE OUTDOOR D. I., Box 222. Exec: S. J. Papas, Racine Drive-In Th., Inc. (650)

Reedsburg, Wisc., 33 D. I. Exec: Dick Kelly and Theatres Service Co. (320)

Richland Center, Wisc., HIGHWAY 14 D. I. (Muscoda). Exec: Estate of Sarah Eskin. (526)

Shawano, Wisc., SHAWANO D. I. Exec: W. L. Ainsworth, Independent Ths. Co., Inc. (620)

Sheboygan, Wisc., STAR DUSK D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (680)

Slinger, Wisc., SLINGER OUTDOOR D. I. Exec: Unity Ct. (300)

Sparta, Wisc., HI-WAY 16 D. I. Exec: Peter Stathis, Classic Th., Sparta. (300)

Stevens Point, Wisc., HI-WAY 51 D. I., Hwy 51, 407 Division St. Exec: Badger Outdoor Th. Co., 411 Loeb Arcade, Minneapolis, Minn. (392)

Stevens Point, Wisc., McLARKY'S PARK D. I. (Whiting), R. R. 1, Box 65. Exec: C. McLarky. (100)

Sturgeon Bay, Wisc., STARLIGHT D. I. Exec: Arthur Brungraber Family and Joseph Woodward. (300)

Tomah, Wisc., DRIVE IN. Exec: Ben Marcus. (432 Under Construction)

Watertown, Wisc., 16MM D. I. Exec: Traveling Th. Co. (16mm.)

Wausau, Wisc., HI-WAY 29 D. I., Hwy. 29. Exec: Sig Goldberg, B and G Th. Co. (500)

Weyauwega, Wisc., HI-WAY 10 OUTDOOR D. I., Star Route. Exec: Albert Behm, Jr. (210)

Wisconsin Rapids, Wisc., HIWAY 13 D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (500)

MINNEAPOLIS TERRITORY

Minnesota

Albert Lea, Minn., STARLITE D. I. Exec: Ben Friedman, Albert Lea Amuse. Co. (366)

Alexandria, Minn., SUNSET D. I. Exec: Mr. and Mrs. Wallace Bloom. (350)

Austin, Minn., HIWAY 218 D. I., 304 S. St. Paul St. Exec: Austin Outdoor Th. Corp. (434)

Brainerd, Minn., GULL D. I. Exec: Home Ths. Co. (489)

Gross Lake, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Detroit Lakes, Minn., SKYVIEW D. I. Exec: Elson and Nathanson, Lake Th. Co. (350)

Duluth, Minn., SKYLINE D. I., Hwy. 53. Exec: Mann and Rubenstein, Duluth Outdoor Th. Co. (548)

Fairmont, Minn., FAMILY D. I. Exec: Watters and Nash. (350)

Fergus Falls, Minn., FERGUS FALLS D. I. Exec: Berger Amuse. Co., 317 Plymouth Bldg., Minneapolis. (370)

Garrison, Minn., GARRISON D. I. Exec: J. Bolig. (400)

Hackensack, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Heiberg, Minn., 2 FRIENDS D. I., Hwys. 31 and 32 North of Heiberg. Exec: Henry Lietzau, Shelly. (225)

Hibbing, Minn., HIBBING D. I. Exec: Lyle Carisch, Wayzata. (500)

Little Falls, Minn., AIRPORT D. I. Exec: Lowell Smoots. (514)

Longville, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Luverne, Minn., DRIVE-IN. Exec: K. C. Sargent. (300 Under Construction)

Mahnomen, Minn., STAR D. I. Exec: M. Francis. (100)

Mankato, Minn., KATO OUTDOOR, Rt. 4. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis. (350)

Marshall, Minn., STARLITE D. I. Exec: J. Heller. (428)

Minneapolis, Minn., BLOOMINGTON D. I., 78th St. betw. Portland and Cedar. Exec: Minnesota Entertainment Entr., Inc., Plymouth Bldg. (500)

Minneapolis, Minn., HILL TOP D. I., 4711 Central Ave. N.E. Exec: Sullivan Bros. (500)

Minneapolis, Minn., TWIN D. I., 3901 Central Ave. N.W. Exec: Al Aved and Associates. (500)

Minneapolis, Minn., 7 HI D. I. (Hopkins), Hwy. 7. Exec: Sterling P. Jones. (750)

Minneapolis, Minn., STARLITE D. I. (Osseo). Exec: Minnesota Entertainment Entr., Inc., Plymouth Bldg. (650)

Minetonka, Minn., NAVARRE AMPHI-THEATRE. Exec: Leo Aved, Pres., Navarre Amuse. Co. (575 and 300 Walk-Ins)

Morehead, Minn., STARLITE D. I. Exec: Joe Floyd and Eddie Ruben. (Under Construction)

Morris, Minn., RAND D. I. Exec: M. Randgard. (350)

Owatonna, Minn., HIWAY 65 D. I., Highway 65. Exec: Owatonna Amuse. Co., Inc. (500)

Pipestone, Minn., SUNSET D. I. Exec: Al Lee, Pipestone Amuse. Co., Richfield Th., Richfield. (400)

Redwood Falls, Minn., 71 D. I. Exec: Buckley, Peterson and Johnson. (482)

Rochester, Minn., ROCHESTER OUTDOOR D. I., Hwys. 14 and 52. Exec: Ralph Green, Sec'y., North States Enter., Inc. (440)

Saint Cloud, Minn., CLOUD OUTDOOR D. I. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis. (373)

Saint James, Minn., DRIVE-IN. Exec: Friedman Bros. (400 Under Construction)

Saint Paul, Minn., CORRAL D. I. Exec: Minnesota Entertainment Entr., Inc., Plymouth Bldg., Minneapolis. (650)

Saint Paul, Minn., MINNEHAHA D. I. Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg., Minneapolis. (650)

Saint Paul, Minn., ROSE D. I., N. Snelling and County Rd. Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg., Minneapolis. (600)

Slayton, Minn., DUFFY'S D. I. Exec: R. Rauenharst. (Under Construction)

Spring Valley, Minn., MLINAR D. I. Exec: J. Mlinar and Son. (406)

Winona, Minn., SKY VU D. I., Minneapolis City Rd. Exec: Al Smith, Outdoor Enter., Inc. (500)

Worthington, Minn., GAY D. I. Exec: Gay Hower. (412)

North Dakota

Bismarck, N. D., CORRAL D. I. Exec: Anton Schultz. (520)

Bismarck, N. D., SUNDOWN D. I. Exec: Fleck and Wetzstein. (Under Construction)

Devils Lake, N. D., STARLITE D. I. Exec: Joe Floyd and Eddie Ruben. (Under Construction)

Dickinson, N. D., HILLCREST D. I. Exec: Frank Hallowell, Dickinson Th. Co. (500)

Fargo, N. D., STARLITE D. I., 1900 13th St. N. Exec: Starlite Ths. of N. D. (500)

Grand Forks, N. D., STARLITE D. I. Exec: Starlite Drive-In Ths., Inc. (400)

Harvey, N. D., 52 D. I. Exec: Backes Bros. (300 Under Construction)

Jamestown, N. D., SUNSET D. I. Exec: Mrs. L. J. Ludwig and Burr Cline, Lake Road Amuse. Co. (320)

Linton, N. D., DRIVE-IN. Exec: George Chapman. (300 Under Construction)

Minot, N. D., HILLTOP D. I. Exec: Triangle Ths., and Earl L. Beck, Mgr. (Under Construction)

Minot, N. D., MINOT OUTDOOR D. I., P. O. Box 1724. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis, Minn. (374)

Mott, N. D., OPEN HOUSE D. I. Exec: O. K. Butts. (196 Under Construction)

Regent, N. D., LAKESIDE D. I. Exec: C. K. Wuttke. (150)

Williston, N. D., LAKE PARK D. I. Exec: Snyder Th. Co. (500)

Williston, N. D., VALLEY D. I. Exec: Gould and Kuhlman. (420)

South Dakota

(NOTE: See also Denver and Omaha Territories)

Aberdeen, S. D., STARLITE D. I. Exec: E. R. and Evelyn Ruben. (500)

Big Stone City, S. D., BIG STONE D. I. Exec: Urban Stolpman. (400)

Brookings, S. D., SIOUX D. I. (Formerly Brookings). Exec: D. M. Peterson, % State Th. (300)

Chamberlain, S. D., WESTERN D. I. Exec: E. C. Sorenson and E. D. Nash. (370)

Herreid, S. D., DRIVE-IN. Exec: Eugene Hoerth. (Under Construction)

Huron, S. D., STARLITE D. I. Exec: Starlite Drive-In Ths. of Huron, Inc. (406)

Lemmon, S. D., RAINBOW D. I. Exec: L. Kressley. (380)

Madison, S. D., MADISON D. I. Exec: D. Becker. (300)

Miller, S. D., RUSTLER D. I. Exec: E. Schweigerdt. (260)

Mitchell, S. D., LAKEVIEW D. I., P. O. Box 913. Exec: Wm. Clark, Pres., Lakeview Drive-In Th., Inc. (466)

Mobridge, S. D., LAKEVIEW D. I. Exec: Doug Kressley. (400)

Pierre, S. D., SIOUX D. I., Hwy. 38. Exec: D. H. Martin, Mgr., and Leo and Dan Peterson. (300)

Redfield, S. D., SIOUX D. I. Exec: Leo and Dan Peterson. (Under Construction)

Sioux Falls, S. D., EAST PARK D. I., Hwy. 38. Exec: (Unknown). (423)

Sioux Falls, S. D., STARLITE D. I., 1925 Northwest. Exec: Starlite Ths. of S. D. (650)

Watertown, S. D., EAST PARK D. I. Exec: Welworth Ths. Co., Minneapolis, Minn. (408)

Wisconsin

(NOTE: See also Milwaukee Territory)

Ashland, Wisc., DRIVE-IN. Exec: Frank J. Hahn, Jr. (500 Under Construction)

Eau Claire, Wisc., STARDUSK D. I. Exec: S. M. Grengs. (450)

Hayward, Wisc., HAYWARD D. I. Exec: A. N. Donnellelen, Box 162, Winter. (300)

La Crosse, Wisc., NORTH STAR D. I. Exec: Philip Dyer, Peter Reinhard and Assoc., and Al Aved and Assoc. (550)

La Crosse, Wisc., STARLITE D. I. Exec: S and M Ths., 127 E. Silver Spring Dr., Milwaukee. (586)

Rice Lake, Wisc., 53 AUTO VUE D. I. Exec: Miner Amuse. Co. (500)

Spooner, Wisc., PAL MOTE D. I. Exec: Grengs Ct. (450)

Superior, Wisc., STARDUSK D. I. Exec: S. M. Grengs, Hollywood Th., Eau Claire. (700)

NEW HAVEN TERRITORY

Connecticut

(NOTE: See also Boston Territory)

Bloomfield, Conn., BLUE HILLS D. I. Exec: Peter A. Leroy. (687)

Bolton Notch, Conn., MANCHESTER D. I. (Formerly Bolton Notch) (Manchester). Exec: Bernie Menschell. (Under Construction)

Burrville, Conn., TORRINGTON D. I., Box 866, Torrington. Exec: Rosen and Lockwood, Boston, Mass. (576)

Canaan, Conn., CANAAN D. I. Exec: Phil Isenberg, Liggett-Florin Ct., 220 W. 42nd St., New York, N. Y. (500)

Danbury, Conn., DANBURY D. I., P. O. Box 590. Exec: Lockwood and Gordon Ct., Metropolitan Bldg., Boston, Mass. (624)

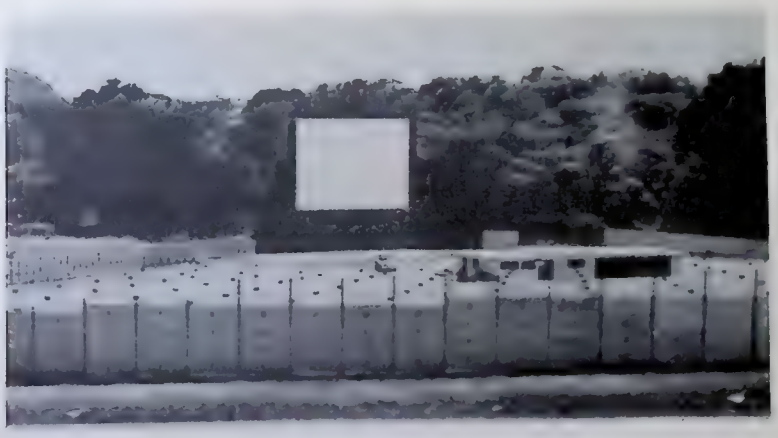
Derby, Conn., CENTER D. I., Derby-Ansonia Town Line. Exec: R. Schwartz, and B. and T. Jacobs. (950)

East Haven, Conn., POST D. I. Exec: Arthur Howard, Affiliated Ct., 1103 Park Square Bldg., Boston, Mass. (607)

East Windsor, Conn., EAST WINDSOR D. I., Ellington Rd., Box 33, Wapping. Exec: Kupchunos Bros. (756)

Farmington, Conn., E. M. LOEW-FARMINGTON D. I. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (671)

Milford, Conn., E. M. LOEW-MILFORD D. I. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (490)



HAVING A CAR CAPACITY OF 636, the Auto-Cine is the only drive-in in Panama. Above is a view of the tower which supplies a 38 by 53 foot picture. Below is a view of the modern concession stand building.

Montville, Conn., NEW LONDON & NORWICH D. I., R.F.D. #7, Norwich. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (735)

Newington, Conn., E. M. LOEW D. I. (Formerly Hartford), Route 5. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (834)

Newington, Conn., PIKE D. I., Route 5. Exec: R. Gloth, Amalgamated Buying Service. (770)

North Haven, Conn., NEW HAVEN D. I., Rt. 5, P. O. Box 183. Exec: C. M. Lane, and Daytz Ths. Ent., 260 Tremont St., Boston, Mass. (596)

Norwalk, Conn., NORWALK D. I. Exec: Rosen and Lockwood, Boston, Mass. (680)

Plainfield, Conn., LORD'S INDOOR & OUTDOOR D. I. Exec: Edward Lord. (782)

Pleasant Valley, Conn., PEOPLES D. I. (Winsted). Exec: L. Cintrella and V. Youmatz. (343)

Portland, Conn., DRIVE IN. Exec: Ted and Joe Markoff, and Amalgamated Booking Service, New Haven. (450)

Stamford, Conn., STAR-LITE D. I. Exec: William T. Sobel, and Liggett and Florin Ct., 220 W. 42nd St., New York, N. Y. (563)

Torrington, Conn., SKY-VIEW D. I. Exec: Sam Rosen, Lockwood and Gordon Ct., Metropolitan Bldg., Boston, Mass. (575)

Waterbury, Conn., PINE D. I., P. O. Box 3007. Exec: J. Dolgin and Francis M. McQueeney, Jr. (980)

Waterford, Conn., WATERFORD D. I. Exec: Sherwood Gloth and Amalgamated Buying Service. (710)

West Haven, Conn., BOWL D. I. Exec: Seymour Levine. (666)

Wolcott, Conn., LAKE D. I. Exec: R. Schwartz, Daytz Ths. Ent., 260 Tremont St., Boston, Mass. (600)

NEW ORLEANS TERRITORY

Alabama

(NOTE: See also Atlanta Territory)

Andalusia, Ala., FENDLEY D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Atmore, Ala., PALMS D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Bay Minette, Ala., BAY D. I. Exec: Fred McLendon, P. O. Box 289, Union Springs. (250)

Brewton, Ala., EAGLE D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Chickasaw, Ala., AIR SHO D. I. Exec: Giddens and Rester Ths., and W. E. Limroth, P. O. Box 1495, Mobile. (750 and 200 Seats)

Citronelle, Ala., CITRONELLE D. I. Exec: J. R. Culpepper, Deer Park. (250)

Evergreen, Ala., MOONLIGHT D. I. Exec: Bert Gorum. (–)

Fairhope, Ala., BEACH WALK-IN. Exec: C. Willard, S. Riggs, P. O. Box 637. (300)

Florala, Ala., STARLITE D. I. Exec: Olin Evans. (194)

Foley, Ala., HUB D. I. Exec: Fred McLendon, P. O. Box 289, Union Springs. (315)

Greenville, Ala., CAMELIA D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

McIntosh, Ala., 43 D. I. Exec: John Waterall. (125)

McKenzie, Ala., STARVUE D. I. (Formerly Sundown). Exec: Fred McLendon, P. O. Box 289, Union Springs. (200)

Mobile, Ala., AUTO SHO D. I., Route 4, Exec: Giddens and Rester Ths., and W. E. Limroth, P. O. Box 1495. (900)

Mobile, Ala., BAMA D. I., Hwy. 90. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (500 and 425 Seats)

Mobile, Ala., DO D. I., 51 Dauphin St. Exec: E. I. Fessler. (550)

Monroeville, Ala., HUB D. I. (Fisco City). Exec: Fred McLendon, P. O. Box 289, Union Springs. (270)

Opp, Ala., DIXIELAND D. I. Exec: Tom Jones. (325)

Opp, Ala., OPP D. I. Exec: G. S. Owen. (312)

Prichard, Ala., 45 D. I., Hwy. 45. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (500)

Sanford, Ala., MIDWAY D. I. Exec: R. J. Barnes. (250)

Arkansas

(NOTE: See also Kansas City and Memphis Territories)

Stamps, Ark., 82 D. I. Exec: Emma Rater. (300)

Texarkana, Ark., JOY D. I., Hwy. 59. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans, La. (600)

Texarkana, Ark., LOOP D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans, La. (700)

Texarkana, Ark., RED RIVER D. I., Hwy. 67. Exec: Mrs. Ruth Ketchum. (750)

Florida

(NOTE: See also Atlanta Territory)

Century, Fla., ESCAMBIA D. I., P. O. Box 314. Exec: Paul Wood. (200)

Crestview, Fla., DIXIE D. I., P. O. Box 36. Exec: Neal Robinson. (400)

Crestview, Fla., PARK D. I., P. O. Box 565. Exec: L. E. Craig, and Russell Callen, 223 S. Liberty St., New Orleans, La. (250)

Milton, Fla., JOY D. I., Hwy. 90. Exec: Fred McLendon, P. O. Box 289, Union Springs, Ala. (350)

Milton, Fla., SKYLINE D. I. Exec: C. Dennis, Route 2, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (200)

Niceville, Fla., BAY D. I. Exec: J. J. Tringas, Box 158, Ft. Walton. (225)

Ocean City, Fla., OCEAN CITY D. I. (Fort Walton), P. O. Box 565, Crestview. Exec: L. E. Craig, and Russell Callen, 223 S. Liberty St., New Orleans, La. (250)

Pensacola, Fla., HI-WAY 90 D. I. (Formerly Pensacola), Hwy. 90. Exec: Paramount Gulf Ths., 143 N. Rampart, New Orleans, La. (500)

Pensacola, Fla., PALAFOX D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (400)

Pensacola, Fla., PALMS D. I. Exec: M. H. McCoy. (500)

Pensacola, Fla., RANCH D. I. Exec: Jimmy and Charlie Tringas, P. O. Box 158, Ft. Walton. (400)

Pensacola, Fla., TWIN-AIR D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (1000)

Shalimar, Fla., FLORIDA D. I. Exec: J. J. Tringas, Box 158, Ft. Walton. (300 and 200 Seats)

Warrington, Fla., WARRINGTON D. I. Exec: Mrs. O. Stuart. (500)

Louisiana

(NOTE: See also Dallas Territory)

Abbeville, La., LA FITTE D. I. Exec: F and R Ent., P. O. Box 86. (500)

Alexandria, La., FOX D. I., Huey Long Circle and MacArthur Drive. Exec: B. F. Johnson, 1826 Dartmouth St. (480)

Alexandria, La., JOY D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (500)

Alexandria, La., TWIN D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (1000)

Amite, La., MIXON'S D. I. Exec: Neal Mixon. (250)

Arabi, La., ST. BERNARD D. I., P. O. Box 55, St. Bernard Hwy. Exec: George E. Wiltse, 4216 Hanover St., Dallas, Tex. (650)

Barton, La., BAYOU LAND D. I. Exec: Lewis W. Cox. (300)

Bastrop, La., ROSE D. I. Exec: George H. Goodwin. (400)

Baton Rouge, La., AIRLINE D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (400)

Baton Rouge, La., FLORIDA D. I. Exec: Page Baker, Ths. Service Co., 629 Common St., New Orleans. (500)

Baton Rouge, La., REBEL D. I., 5200 Government Place. Exec: R. J. Barnes, 5401 Government St. (550)

Baton Rouge, La., TIGER D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (600)

Berwick, La., ST. MARY D. I., Hwy. 90. Exec: William Lighter, Jr., Beach Hurst, Pass Christian, Miss. (350)

Bogalusa, La., JACK'S D. I., Rt. #3, Box 108. Exec: Jack M. Mickler, Box 239, Route 3. (515)

Bossier City, La., BARKSDALE D. I., P. O. Box 5617. Exec: Lillian Lutzer, 4316 Manning Lane, Dallas, Tex. (650)

Bossier City, La., DON D. I. Exec: Don George, Don George, Inc., 2424 Lake Shore Drive, Shreveport. (564)

Bunkie, La., FOX D. I. Exec: B. F. Johnson, 1826 Dartmouth St., Alexandria. (450)

Columbia, La., OWL D. I. Exec: C. C. Duke. (250)

Coushatta, La., LEGION D. I. Exec: Len Stephens. (250)

Covington, La., PARK D. I. Exec: Philip F. and Warren J. Salles. (400)

Crowley, La., TRAIL D. I. Exec: Russell Callen, 223 S. Liberty St., New Orleans. (325)

Cutoff, La., JET D. I. Exec: Richard Guidry and "Lefty" Cheramie. (250)

Denham Springs, La., DENHAM SPRINGS D. I. Exec: H. H. Forbes, Jr. (325)

Denham Springs, La., JOAN D. I., P. O. Box 428. Exec: Mrs. V. Muse. (350)

Deridder, La., EL RANCHO D. I., P. O. Box 371. Exec: Percy Duplissey, Box 371, and M. Guidry. (300)

Eunice, La., CLAUDE D. I. Exec: J. C. Keller, and Theatre Service Co., 629 Common St., New Orleans. (300)

Gonzales, La., GONZALES D. I., Route 2. Exec: J. P. Guitreaux, and Russell Callen, 223 S. Liberty St., New Orleans. (200)

Gretna, La., GRETNA GREEN D. I. Exec: Gus C. Street, Jr., 405 S. 13th St. (169)

Hammond, La., MITCHELL D. I. Exec: Garland Thornhill, Box A-5, Hammond, and J. G. Broggi, 218 S. Liberty St., New Orleans. (300)

Houma, La., DRIVE IN (Formerly Houma). Exec: Page Baker, Ths. Serv. Co., 629 Common St., New Orleans. (320)

Jena, La., POP'S D. I. Exec: H. M. Wise. (350)

Jennings, La., PELICAN D. I., Hwy. 90 East. Exec: Biney Marcentel, and J. G. Broggi, 218 S. Liberty St., New Orleans. (250)

Jonesboro, La., J-H D. I. Exec: I. Funderbuck. (400)

Lafayette, La., HUB D. I., Scott Rd. Exec: Max Connett, 218 S. Liberty St., New Orleans. (400)

Lafayette, La., LAFAYETTE D. I., P. O. Box 182. Exec: Louis Michot, Jr., P. O. Box 182, Lafayette, and J. G. Broggi, 218 S. Liberty St., New Orleans. (300)

Lafayette, La., TWIN D. I. Exec: Max Connett, 218 S. Liberty St., New Orleans. (1200)

Lake Charles, La., MIDWAY D. I. Exec: C. E. Jenner, Laurel D. I., Laurel, Miss. (550)

Lake Charles, La., NEW MOON D. I. Exec: Maurie Kleinman. (1000)

Lake Charles, La., ROUNDUP D. I., P. O. Box 562. Exec: Page Baker, Ths. Serv. Co., 629 Common St., New Orleans. (500 and 125 Seats)

Lake Charles, La., SURF D. I. Exec: Matt Guidry, % Pat Th., Lafayette. (500)

Lake Providence, La., LAKE D. I. Exec: D. B. Fiske, Fiske Th., Oak Grove. (400)

Laplace, La., LA PLACE D. I. Exec: Bill Castay and Morris Terry. (250)

Leesville, La., PINES D. I., Hwy. 171. Exec: Page Amuse. Co., Robeline. (400)

Mansfield, La., DeSOTO D. I. Exec: Claude Younger. (300)

Mansura, La., JOY D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (300)

Marrero, La., MARRERO D. I., P. O. Box 143. Exec: William Shiell. (400)

Metairie, La., CRESCENT D. I. (New Orleans), 1761 Airline Hwy. Exec: M. A. Lightman, Malco Ths., P. O. Drawer 2853, Memphis, Tenn. (700)

Minden, La., HANDS D. I., Hwy. 80. Exec: Page Baker, Ths. Serv. Co., 629 Common St., New Orleans. (500)

Minden, La., JOY D. I. Exec: W. H. Cobb, and Exhibitor's Poster Exch., 221 S. Liberty St., New Orleans. (500)

Monroe, La., JOY D. I., 7700 DeSiard Rd. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (500)

Monroe, La., LEO D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (475)

Monroe, La., STAR D. I., 509 Glenmar St. Exec: H. G. Prophit, Jr. (240)

Natchitoches, La., CHIEF D. I., P. O. Box 77. Exec: W. R. Younger, Box 77, Hiway 20 So. (300)

New Iberia, La., ECHO D. I. Exec: Jack O'Quin, Rio Th., Kaplan. (450)

New Orleans, La., ALGIERS D. I. Exec: Sidney Otis. (600)

New Orleans, La., SKYVU D. I., Rt. 6, Box 269. Exec: Mortimer and Shiell, Gentilly Blvd. and Downman Rd. (800)

Oakdale, La., MELODY D. I. Exec: Percy Duplissey. (500)

Opelousas, La., MIDWAY D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (325)

Opelousas, La., YAM D. I., P. O. Box 446. Exec: E. R. Sellers, 330 E. Franklin, and Milton Guidry. (300)

Plaquemine, La., BRAD D. I. Exec: W. H. Cobb, 221 S. Liberty St., New Orleans. (350)

Ponchatoula, La., CAVE TANGI D. I., Hwy. 51. Exec: Dallas Wood, Box 91. (300)

Ruston, La., RUSTON D. I., Box 457. Exec: W. M. Butterfield. (414)

Scotlandville, La., ELM D. I. Exec: Elm Drive-In Ths., Inc., and Th. Serv. Co., 629 Common St., New Orleans. (250)

Shreveport, La., JOY D. I., Box 163, Greenwood Rd. and Hwy. 80. Exec: Booking Service Co., 1315 Gravier St., New Orleans. (850)

Shreveport, La., KING'S D. I. Exec: M. S. Graham. (600)

Shreveport, La., LEO D. I., Rt. 5, Box 321 F. Exec: Booking Service Co., 1315 Gravier St., New Orleans. (500)

Shreveport, La., SUNSET D. I., P. O. Box 6367. Exec: G. H. Mercer. (650 and 125 Seats)

Shrewsbury, La., AIRLINE D. I., 4100 Airline Hwy. Exec: B. A. Woolner. (800)

Shrewsbury, La., DRIVE-IN MOVIES, 1603 Jefferson Hwy. Exec: B. A. Woolner. (566)

Sterlington, La., KIM D. I. Exec: John Dole. (250)

Tallulah, La., STAR D. I. Exec: Prophet and Kinkle. (300)

Thibodaux, La., COLONIAL D. I. Exec: F. G. Prat, Jr., Vacherie Th., Vacherie. (400)

Vidalia, La., DRIVE IN. Exec: Pat Elzey. (300)

Ville Platte, La., LARK D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (350)

West Monroe, La., STAR D. I. Exec: H. G. Prophit, Jr., 509 Glenmar St., Monroe. (300)

Winnfield, La., PARKWAY D. I. Exec: Albert Long. (300)

Winnsboro, La., LION D. I. Exec: Page Barker, Ths. Serv. Co., 629 Common St., New Orleans. (325)

Mississippi

(NOTE: See also Memphis Territory)

Bay St. Louis, Miss., HIWAY D. I. Exec: Ed Ortte, Clermont Harbor. (550)

Biloxi, Miss., BEACH D. I., W. Beach. Exec: E. V. Landaiche, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (650)

Biloxi, Miss., GULF COAST DO D. I., Pass Road. Exec: E. I. Fessler, Do Drive-In Ths., 51 Dauphin St., Mobile, Ala. (550)

Brookhaven, Miss., 51 D. I., P. O. Box 318. Exec: A. R. Carruth, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (300)

Canton, Miss., STARLITE D. I. Exec: C. A. McGowan. (350)

Carthage, Miss., 35 D. I. Exec: George Chadwick. (300)

Columbia, Miss., DIXIE D. I., P. O. Box 171, Laurel. Exec: F. W. Corbitt. (350)

Forest, Miss., RITZ D. I. Exec: Max Connett. 218 S. Liberty St., New Orleans, La. (375)

Greenville, Miss., JOY D. I. Exec: Wm. Prewitt and Mr. and Mrs. George Davis. (400)

Greenwood, Miss., AIRPORT D. I. Exec: Russell Callen, 223 S. Liberty St., New Orleans, La. (425)

Hattiesburg, Miss., BEVERLY D. I., 303½ 10th Ave., P. O. Box 534. Exec: H. Hargroder. (800)

Hattiesburg, Miss., BROADWAY D. I., P. O. Box 428, Purvis. Exec: F. K. Phillips. (400)

Hazlehurst, Miss., COPIA D. I. (Hattiesburg). Exec: Fred T. McLendon, P. O. Box 289, Union Springs, Ala. (275)

Jackson, Miss., 51 D. I., N. State St. Exec: T. G. Solomon, P. O. Box 514, McComb. (486)

Jackson, Miss., HIWAY 80 D. I., Hwy. 80, W., P. O. Box 3174. Exec: Max Connett, 218 S. Liberty St., New Orleans, La. (400)

Jackson, Miss., SKYVUE D. I., 140 Heatherwood Dr. Exec: T. G. Solomon, P. O. Box 514, McComb. (400)

Jackson, Miss., 49 D. I. Exec: George Tripp, Jr. (200)

Jackson, Miss., VARIA D. I. Exec: Max Connett, 218 S. Liberty St., New Orleans, La. (560)

Laurel, Miss., DRIVE IN (Formerly Laurel). Hwy. 11. Exec: C. Edward Jenner. (354)

Laurel, Miss., STARLITE D. I., 115 14th St. Exec: C. H. Crossley, % Ritz Th., Laurel. (450)

Lorman, Miss., AUTO-VUE D. I. Exec: Sam Ewing. (250)

Lucedale, Miss., RITZ D. I. Exec: M. Hicks. (300)

McComb, Miss., REN D. I. Exec: Mrs. E. A. Robinson, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (350)

Meridian, Miss., MERIDIAN D. I., State Route #19. Exec: A. L. Royal, Ritz Th. (300)

Meridian, Miss., ROYAL D. I. Exec: A. L. Royal, Ritz Th. (400)

Natchez, Miss., REBEL D. I. Exec: Charles P. Morel, % Star Th. (Under Construction)

Natchez, Miss., STARLITE D. I. Exec: Charles Morel, % Star Th. (300)

Newton, Miss., H AND H D. I., Highway 80, East. Exec: T. L. and L. D. Harris. (305)

Pascagoula, Miss., LAKE D. I., Box 28. Exec: W. M. Butterfield. (500 and 300 Seats)

Picayune, Miss., PINE HILL D. I. Exec: Lee M. Hamilton. (400)

Prentiss, Miss., RITZ D. I. Exec: T. V. Carraway, Plaza Th. (400)

Sanatorium, Miss., 49 D. I., Magee, Miss. Exec: Mrs. H. A. Everett. (270)

Taylorsville, Miss., LAKEVIEW D. I. Exec: A. W. Vowell. (210)

Vicksburg, Miss., RIVOLI D. I. Exec: Max Connett, 218 S. Liberty St., New Orleans, La. (300)

Vicksburg, Miss., VICKSBURG D. I. Exec: W. A. Porter, Porter Printing Co., 1910 South St. (275)

Waynesboro, Miss., WAYNESBORO D. I. Exec: A. L. Royal, Ritz Th., Meridian. (300)

West Long Beach, Miss., MOONLITE D. I. (Pass Christian), R.F.D. #1, Box 60 C, Hwy. 90. Exec: Mrs. H. B. Millet. (473)

Wiggins, Miss., GLO D. I. Exec: W. F. Straub. (200)

Woodville, Miss., DRIVE IN. Exec: Al Randall. (300)

Yazoo City, Miss., IDLE HOUR D. I., R. R. #2, Box 154 E. Exec: O. C. Shannon, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (200)

NEW YORK TERRITORY

New Jersey

(NOTE: See also Philadelphia Territory)

Brielle, N. J., MOTOR VUE D. I. (Manasquan), 171 Main St. Exec: Independent Th. Serv., 352 W. 44th St., New York, N. Y. (250)

Eatontown, N. J., EATONTOWN D. I., Route 35. Exec: Walter Reade Ths., 701 7th Ave., New York, N. Y. (750)

Farmingdale, N. J., FLY-IN D. I., P. O. Box 126. Exec: E. I. Brown, and L and F Ct., 220 W. 42nd St., New York, N. Y. (500 and 10 Planes)

RECENTLY OPENING, the Fort Worth Twin Drive-In, Fort Worth, Tex., ranks with the largest outdoor theatres in the country. Below is a view of some of the 1,631 cars that the theatre can hold.

Farmingdale, N. J., SHORE D. I., P. O. Box 114, R. D. #2. Exec: J. J. Thompson, Eastern Drive-In Th. Ct., New York, N. Y., and Ligget and Florin Ct., 220 42nd St., New York, N. Y. (700)

Lawrenceville, N. J., LAWRENCE D. I. (Trenton), Brunswick Pike, R.F.D. #2. Exec: Walter Reade Ths., 701 7th Ave., New York, N. Y. (550)

Ledgewood, N. J., GARDEN AUDITORIUM. Exec: W. P. Smith. (550)

Livingston, N. J., LIVINGSTON D. I., Route 10. Exec: Philip Smith Ct., 82 Newberry St., Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (1000)

Morris Plains, N. J., MORRIS PLAINS D. I., Route 10. Exec: J. J. Thompson, Eastern Drive-In Ct., New York, N. Y., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (600)

North Brunswick, N. J., BRUNSWICK D. I., Route 14. Exec: J. J. Thompson, Eastern Drive-in Ct., New York, N. Y., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (600)

Paramus, N. J., PARAMUS D. I., Route 4. Exec: J. J. Thompson, Eastern Drive-In Ths. Ct., New York, N. Y., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (800)

Paterson, N. J., TOTOWA D. I., Rt. 6, Box 136, R. D. #2. Exec: J. J. Thompson, Eastern Drive-In Ths. Ct., New York, N. Y., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (800)

Ringoes, N. J., HUNTERDON D. I. Exec: St. Cloud Amuse. Co., Washington. (300)

Rutherford, N. J., S-3 D. I., P. O. Box 318. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (1300)

Saddle River, N. J., ROUTE 6 D. I. (Rochelle Park), Box 65. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (1100)

Union, N. J., UNION D. I., Route 29. Exec: J. J. Thompson, Eastern Drive-In Th. Ct., New York, N. Y., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (600)

Woodbridge, N. J., WOODBRIDGE D. I., P. O. Box 315. Exec: Walter Reade Ths., 701 7th Ave., New York, N. Y. (790)

New York

(NOTE: See also Albany and Buffalo Territories)

Beth Page, L. I., N. Y., HEMPSTEAD TURNPIKE D. I., P. O. Box 48. Exec: Sol Lerner, and Ligget and Florin Ct., 220 W. 42nd St., New York. (616)

Brentwood, L. I., N. Y., BAYSHORE D. I. Exec: 5th Ave. Bayshore Drive-In Corp., Michael Redstone, Boston, Mass., and Ligget and Florin, 220 W. 42nd St., New York. (730)

Bronx, N. Y., WHITESTONE BRIDGE D. I., 2505 Bruckner Blvd. Exec: Michael Redstone, Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York. (850)

Commack, L. I., N. Y., COMMACK D. I. Exec: Commack Drive-In Corp., and Ligget and Florin Ct., 220 W. 42nd St., New York. (670)

Croton-On-Hudson, N. Y., STARLIGHT D. I., Rt. 9, Albany Post Rd. Exec: Murray Briskin. (500)

Elmsford, N. Y., ELMSFORD D. I., P. O. Box 737. Exec: Arthur Steel. (750)

Eltingville, Staten Island, N. Y., STATEN ISLAND D. I. Exec: Fabian Ct., 1501 Broadway, New York. (600)

Fishkill, N. Y., FISHKILL D. I. Exec: Brandt Th. Ct., New York. (500)

Greenport, L. I., N. Y., SKYWAY D. I., Rt. 25, 403 Main St. Exec: North Shore Features, Inc., and Brandt Th. Ct., New York. (400)

Hyde Park, N. Y., AUTO-VISION D. I. Exec: P. Eisenburg, S. F. Cohen, and Ligget and Florin Ct., 220 W. 42nd St., New York. (480)

Kingston, N. Y., 9W D. I., Route 9W. Exec: Walter Reade Ths., 701 7th Ave., New York. (650)

Kingston, N. Y., SUNSET D. I., R. D. #4, Box 1013. Exec: Harry Lamont, 100 State St., Albany, and Ligget and Florin Ct., 220 W. 42nd St., New York. (450)

Massapequa, L. I., N. Y., MASSAPEQUA D. I. (Amityville), P. O. Box 545. Exec: Ligget and Florin Ct., 220 W. 42nd St., New York. (600)

Middletown, N. Y., MIDDLETOWN D. I., Rt. 17, R. D. #4. Exec: Harry Lamont, 100 State St., Albany, and Ligget and Florin Ct., 220 W. 42nd St., New York. (400)

Newburgh, N. Y., BROOKSIDE-ON-LAKE D. I. Exec: Al Suchman. (700)

Newburgh, N. Y., MIDDLEHOPE D. I., Balmville, Rt. 9W. Exec: T. Tulve, Hudson Valley Drive-In Ent., Inc., and Ligget and Florin Ct., 220 W. 42nd St., New York. (400)

Peekskill, N. Y., HOLLOWBROOK D. I., Oregon Rd. and Red Mill. Exec: Nat Lapkin, % Fabian Ths., 1501 Broadway, New York. (600)

Poughkeepsie, N. Y., OVERLOOK D. I., R. D. #3. Exec: Harry Lamont, 100 State St., Albany, and Ligget and Florin Ct., 220 W. 42nd St., New York. (500)

Valley Stream, L. I., N. Y., SUNRISE D. I. Sunrise Highway. Exec: Michael Redstone, Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York. (750)

Warwick, N. Y., WARWICK D. I. Exec: Charles Finger, George Miller, and Ligget and Florin Ct., 220 W. 42nd St., New York. (300)

OKLAHOMA CITY TERRITORY

Oklahoma

(NOTE: See also Dallas Territory)

Ada, Okla., TOWER D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Ada, Okla., #2 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Altus, Okla., ALTUS D. I., P. O. Box 267. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Alva, Okla., ALVA D. I. Exec: W. F. Denton. (400)

Anadarko, Okla., CADDO D. I., Hwy. 62. Exec: S. Butler. (300)

Anadarko, Okla., DRIVE-IN. Exec: Homer Strowig and Elmer Bills. (Under Construction)

Ardmore, Okla., SKYVIEW D. I. Exec: E. B. Anderson and James Gaskin. (300)

Ardmore, Okla., STAR-LITE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (450)

Ardmore, Okla., TOWER D. I., West of City. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Atoka, Okla., CHOCTAW D. I. (Formerly Atokn). Exec: Glen D. Thompson, Thompson Ths., Oklahoma City. (200)

Bartlesville, Okla., HILLTOP D. I., Hwy. 60, Notawn Rd. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (488)

Bartlesville, Okla., #2 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Bethany, Okla., LAKE AIR D. I. (Oklahoma City). Exec: R. E. McFarland. (550)

Blackwell, Okla., PIONEER D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Carnegie, Okla., DRIVE IN. Exec: H. D. Cox and Clint Applewhite. (Under Construction)

Checotah, Okla., 69 D. I., S. of town on U. S. #69. Exec: Dick and Dave Crumpler. (200)

Chickasha, Okla., CHIEF D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Claremore, Okla., ROGERS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (450)

Clinton, Okla., CLINTON D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Comanche, Okla., 81 D. I. Exec: George M. Jennings. (360)

Cushing, Okla., SUNDOWN D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Davenport, Okla., RIG D. I. Exec: J. E. Stribling. (Under Construction)

Davis, Okla., ARBUCKLE D. I. Exec: W. T. Kerr. (250)

Del City, Okla., DEL CITY D. I. (Oklahoma City), 2900 Epperly Dr. Exec: R. Lewis Barton. (700)

Duncan, Okla., DUNCAN D. I., Hwy. 81, P. O. Box 707. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (600)

Duncan, Okla., NORTH 5th ST. D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (220)

Edmond, Okla., SUNDOWN D. I. (Formerly Sunset), Hwys. 66 and 67. Exec: M. A. Harris. (300)

Elk City, Okla., 66 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

El Reno, Okla., SQUAW D. I. (Formerly El Reno). Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (250)

Enid, Okla., ENID D. I., Hwy. 81. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (618)

Enid, Okla., TRAIL D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. ((300)

Erick, Okla., BEARCAT D. I. Exec: Lamar Guthrie. (100)

Frederick, Okla., SUNSET D. I. Exec: Video Ind. Ths., 11 N. Lee Ave., Oklahoma City. (295)

Grandfield, Okla., DRIVE IN. Exec: L. D. Burns. (Under Construction)

Guthrie, Okla., BEACON D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (450)

Guymon, Okla., HIGHWAY 54 D. I. Exec: Lewis Long, 1017 N. Main. (430)

Henrietta, Okla., HILLTOP D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Henrietta, Okla., RIETTA D. I. Exec: Claud Thorp. (200)

Hobart, Okla., CREST D. I., Hwy. 183. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Holdenville, Okla., BUCKSKIN D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Hugo, Okla., CIRCUS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Kingfisher, Okla., THOMAS D. I. Exec: Don Abernathy. (250)

Lawton, Okla., AUSTIN'S D. I., Hwy. 62, 1501 Elm. Exec: Joe Turner, Lawton Th. Co. (500)

Lawton, Okla., HANKINS'S D. I. Exec: Ned and Jack Hankins. (600)

Lawton, Okla., MT. SCOTT D. I., P. O. Box 1248. Exec: Volney Hamm. (308)

Lindsay, Okla., HILL CREST D. I., Hwy. 76. Exec: Avece T. Waldron. (300)

Madill, Okla., MADILL D. I. Exec: Edgar Peak and J. D. Hawkins. (250)

Mangum, Okla., CAPITOL D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (266)

Marlow, Okla., LONGHORN D. I., 81 Highway. Exec: O. L. Smith. (300)

McAlester, Okla., 69 D. I. Exec: Fred Rogers. (400)

McAlester, Okla., SKY VU D. I. Exec: J. D. Lankister. (150)

Miami, Okla., SOONER D. I. (Formerly #2). Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Miami, Okla., TRI STATE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Midwest City, Okla., BOMBER D. I. Exec: R. L. Barton. (600)

Norman, Okla., RANCHO D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (350)

Norman, Okla., RIVERSIDE D. I., Hwy. 9. Exec: Elvin B. Anderson. (300)

Nowata, Okla., PARK VU D. I. Exec: C. V. Fleming. (300)

Nowata, Okla., SKY-VU D. I., Rt. 60. Exec: Bud Hicks and J. J. Bowden. (265)

Oklahoma City, Okla., AIRLINE D. I. Exec: R. Lewis Barton. (700)

Oklahoma City, Okla., BARTON'S 77 D. I. (Formerly Odom), 822 S. W. 29th St. Exec: R. Lewis Barton. (1100)

Oklahoma City, Okla., (Midwest City), BOMBER D. I., S. W. 15th and Douglas Blvd. Exec: R. Lewis Barton. (600)

Oklahoma City, Okla., CIRCLE D. I., N.W. of City, 3717 N. Meridian. Exec: W. J. Nethery. (550)

Oklahoma City, Okla., NORTHEAST 66 D. I. P. O. Box 352 A, R. R. #1. Exec: R. Lewis Barton. (600)

Oklahoma City, Okla., N.W. HIWAY D. I., 2825 N.W. 26th, 1615 Carlisle Rd. Exec: R. Lewis Barton. (1000)

Oklahoma City, Okla., SKYVIEW D. I., N. E. 23rd St. Exec: Sam Caporal. (1000)

Oklahoma City, Okla., (Midwest City), TINKER D. I., 500 N. Air Depot Blvd., Box 5558. Exec: R. Lewis Barton. (450)

Oklahoma City, Okla., TWILIGHT D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave. (700)

Okmulgee, Okla., TOWER D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Pauls Valley, Okla., BREWER D. I. Exec: L. E. Brewer. (400)

Pawhuska, Okla., CORRAL D. I., 1½ mi. So. of Town. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (288)

Pawnee, Okla., LAKESIDE D. I. Exec: Milan G. Steele. (200)

Ponca City, Okla., SKYVUE D. I., Hwy. 77. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (608)

Ponca City, Okla., #2 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Poteau, Okla., TOWER D. I., Rt. 1, Box 20. Exec: Ray Hughes and O. K. Kemp. (300)

Pryor, Okla., JOYCE D. I. Exec: Taylor Joyce. (225)

Pryor, Okla., DRIVE IN. Exec: Taylor Joyce. (250)

Purcell, Okla., SKY-VUE D. I., 77 Highway. Exec: K. Lee Williams, Theatre Entr. (250)

Sapulpa, Okla., TEE PEE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (450)

Seminole, Okla., SKYWAY D. I., Hwy. 270. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (500)

Shattuck, Okla., EL-CO D. I. Exec: Garland Wilson. (141)

Shawnee, Okla., STARLITE D. I., Hwy. 18. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (500)

Shawnee, Okla., TECUMSEH D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Spiro, Okla., SUNSET D. I. Exec: L. C. Carter. (200)

Stigler, Okla., DRIVE IN. Exec: Jack Pierce. (Under Construction)

Stillwater, Okla., MOONLITE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Sulphur, Okla., COMET D. I. Exec: J. Rochelle. (220)

Sulphur, Okla., STARLITE D. I. Exec: Izah Adams. (350)

Tulsa, Okla., ADMIRAL D. I. (Formerly Modern Air), East Admiral St. Exec: Hank Robb. (700)

Tulsa, Okla., AIRVIEW D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (700)

Tulsa, Okla., APACHE D. I., 3700 E. Apache St. Exec: Earl Snyder. (500)

Tulsa, Okla., BELLAIRE D. I. Exec: L. E. Snyder, Jr. (600)

Tulsa, Okla., RIVERSIDE D. I., 71st St. So. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (600)

Tulsa, Okla., SAND SPRINGS D. I., 7600 Sand Springs Rd., Rt. 6. Exec: J. E. Jones, Mgr. (507)

Tulsa, Okla., SHERIDAN D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (650)

Tulsa, Okla., 66 D. I., Hwy. 66. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (500)

Tulsa, Okla., SKYLINE D. I., 3800 N. Cincinnati St. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (500)

Velma, Okla., V-A D. I. Exec: W. J. Nelson. (224)

Vinita, Okla., LARIAT D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (450)

Wagoner, Okla., CHEROKEE D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (200)

Walters, Okla., OKLAHOMA D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (200)

Watonga, Okla., WATONGA D. I. Exec: Herb Boehm. (200)

Wewoka, Okla., POW-WOW D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Wilburton, Okla., NEW D. I. Exec: Jack McReynolds. (200)

Wilson, Okla., DERRICK D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (250)

Woodward, Okla., TERRYTIME D. I. Exec: D. V. Terry. (416)

Texas

(NOTE: See also Dallas and Denver Territories)

Abernathy, Tex., ANTELOPE D. I. Exec: George Reed. (200)

Borger, Tex., BUNAVISTA D. I., Box 2086. Exec: John Fagan. (596)

Borger, Tex., PLAINS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (500)

Borger, Tex., TRI-CITY D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (320)

Canyon, Tex., CANYON D. I. Exec: W. J. Wooten. (316)

Dumas, Tex., PRAIRIE D. I., P. O. Box 367. Exec: H. S. McMurray. (400)

Earth, Tex., SUNSET D. I. Exec: E. T. Brown. (250)

Friona, Tex., CHIEF D. I. Exec: Marvin Lawson. (240)

Henrietta, Tex., RIETTA D. I. Exec: Claude Thorpe and Aaron Burns. (350)

Henrietta, Tex., TOWER D. I., Box 17. Exec: Jim Bailey. (200)

Lockney, Tex., SEALE D. I. Exec: J. B. Seale. (200)

McLean, Tex., DERBY D. I. Exec: Amos Page. (128)

Memphis, Tex., TOWER D. I. Exec: Hollis Boren. (276)

Paducah, Tex., CHIEF D. I. Exec: H. B. Leathers. (225)

Pampa, Tex., PAMPA D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (400)

Pampa, Tex., TOP OF TEXAS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (450)

Perryton, Tex., DRIVE IN. Exec: Carl Ellis. (300)

Perryton, Tex., RANGER D. I. Exec: Virby Conley. (324)

Shamrock, Tex., PIONEER D. I. Exec: S. Worley. (300)

Spearman, Tex., WAGON WHEEL D. I. Exec: J. D. Willbanks. (250)

Sunray, Tex., BUCKAROO D. I. Exec: Ben Adams, Palace Th. (300)

Wellington, Tex., BRONCO D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (302)

Wheeler, Tex., MUSTANG D. I. Exec: Lee Guthrie. (400)

OMAHA TERRITORY

Iowa

(NOTE: See also Des Moines and Saint Louis Territories)

Cherokee, Ia., CORRAL D. I. Exec: Pioneer Ct., St. Louis Park, Minn. (402)

Clarinda, Ia., CLARINDA D. I. Exec: Pioneer Ct., St. Louis Park, Minn. (400)

Council Bluffs, Ia., COUNCIL BLUFFS D. I. Exec: Central States Ths. Corp., Des Moines. (600)

Denison, Ia., DENISON D. I. Exec: Cecil Crouse. (300)

Harlan, Ia., HARLAN D. I. Exec: Alferd Haals. (300)

Milford, Ia., LAKELAND D. I. Exec: Jim Travis. (300)

Onawa, Ia., DRIVE-IN. Exec: Roy Lepovitz. (Under Construction)

Red Oak, Ia., RED OAK D. I. Exec: Mrs. Carl Johnson. (200)

Sheldon, Ia., SHELDON D. I. Exec: Iowa United Ths., Des Moines. (348)

Shenandoah, Ia., IOWA D. I. Exec: Robert Holdridge. (300)

Sioux City, Ia., GORDON TWIN D. I., 2310 E. Solway. Exec: Roy Warfield. (980)

Sioux City, Ia., 75 D. I. (Formerly Sioux City), 2900 N. Hwy. 75. Exec: Affiliated Ths., Inc. (750)

Spirit Lake, Ia., SPIRIT LAKE D. I. Exec: Phil March, March Bros., Wayne, Nebr. (396)

Storm Lake, Ia., STORM LAKE D. I. Exec: Pioneer Ct., St. Louis Park, Minn. (375)

Nebraska

(NOTE: See also Denver Territory)

Beatrice, Nebr., CREST D. I. (Formerly Hillcrest). Exec: Sol Frank and Ward Pennington. (400)

Broken Bow, Nebr., BROKEN BOW D. I. Exec: H. F. Kennedy and Son. (400 Under Construction)

Columbus, Nebr., COLUMBUS D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

Falls City, Nebr., BREEZY HILL D. I. Exec: J. Cook. (404)

Fremont, Nebr., FREMONT D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (500)

Grand Island, Nebr., GRAND ISLAND D. I. Exec: Commonwealth Ths., Inc., 215 W. 18th St., Kansas City, Mo. (450)

Hastings, Nebr., HASTINGS D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

Hebron, Nebr., OREGON TRAIL D. I. Exec: Harold Struve, Deshler, and Co-Op Th. Serv. (300)

Holdrege, Nebr., TOWER D. I., P. O. Box 129. Exec: Harold Struve, and Deshler. (250)

Kearney, Nebr., KEARNEY D. I., P. O. Box 484. Exec: M. Lewis. (450)

Lexington, Nebr., MOTOR MOVIE D. I. (Formerly Lexington). Exec: Loton Todd. (375)

Lincoln, Nebr., STARVIEW OUTDOOR D. I., Vine St. nr. 48th. Exec: I. Dubinsky. (600)
Lincoln, Nebr., WEST "O" D. I., 24th & O Sts. Exec: I. Dubinsky. (500)

Nebraska City, Nebr., TRAIL D. I. Exec: Midcentral Ths. (250)

Neligh, Nebr., STARLITE D. I. Exec: Walt Bradley. (328)

Norfolk, Nebr., NORFOLK D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (400)

Omaha 10, Nebr., GOLDEN SPIKE D. I., 2805 N. 16th St. Exec: Golden Spike Th. Corp. (850)

Omaha, Nebr., GRANDVIEW D. I. Exec: E. C. Petsch. (300)

Omaha, Nebr., 76 WEST DODGE D. I. (Formerly Omaha), 79th & Dodge Sts., Exec: Central States Ths. Corp., Des Moines, Ia. (650)

Omaha, Nebr., WEST CENTER D. I. Exec: Roman Hruska and Russell Brehm. (Under Construction)

O'Neill, Nebr., O'NEILL D. I. Exec: R. V. Fletcher. (350)

South Sioux City, Nebr., SEVEN-T-SEVEN D. I. Exec: A. E. Thacker. (290)

Valentine, Nebr., VALENTINE D. I. Exec: Wm. Hill. (300)

Wayne, Nebr., DUDE RANCH D. I. Exec: Phil and George March. (300)

West Point, Nebr., Y-KNOT D. I. Exec: Phil Lannon. (296)

York, Nebr., PINES D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

South Dakota

(NOTE: See also Denver and Minneapolis Territories)

Centerville, S. D., TWI-LITE D. I. Exec: Arvin Davidson. (106)

Gregory, S. D., GREGORY D. I., Hwy. 16. Exec: Roy Metzger. (240)

Winner, S. D., WINNER D. I. Exec: Harvey Fust. (200)

Yankton, S. D., MOVIELAND D. I. Exec: M. Slaughter and Tom Butler. (300)

PHILADELPHIA TERRITORY

Delaware

(NOTE: See also Washington Territory)

Dagsboro, Del., DEL-AIR D. I., R.F.D. #3, Cambridge, Md. Exec: Independent Th. Serv., 301 G St., Washington, D. C. and Al Goodycar. (528)

Dover, Del., KENT D. I., Rt. 113. Exec: M. Schwartz. (375)

Felton, Del., DIAMOND STATE D. I. Exec: Mrs. Millie Steel. (300)

Milford, Del., SUPER #113 D. I. Exec: Ray Woodward, c/o Orpheum Th., Franklin, Pa. (350)

Newport, Del., PLEASANT HILL D. I., West Newport Pike. Exec: Robert P. Maclary, and Tri-States Buying and Booking Serv., Philadelphia, Pa. (750)

Wilmington, Del., BRANDYWINE D. I. (New Castle), Route 13. Exec: M. Geller. (550)

Wilmington, Del., KERRY D. I., 20th St. and Gov. Printz Blvd. Exec: R. R. M. Carpenter, Jr., 1007 Tatnall St., and Tri-States Buying and Booking Serv., Philadelphia, Pa. (526)

New Jersey

(NOTE: See also New York Territory)

Bridgeton, N. J., BRIDGETON D. I., Route 46. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (532)

Burlington, N. J., BURLINGTON D. I., Route 25. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (500)

Camden, N. J., GARDEN STATE D. I., Route 10. Exec: R. W. Palecce, Savar Amuse., 4605 Westfield Ave. (710)

Gloucester Heights, N. J., STARLITE D. I., Rt. 45 and Nicholson Rd. Exec: Smith and Liggett, and A. and L. Sablosky Ent., Norris Th., Norristown, Pa. (900)

Island Heights, N. J., BAY'S D. I. Exec: Liggett and Florin Ct., 220 W. 42nd St., New York, N. Y. (286)

Pleasantville, N. J., ATLANTIC D. I., P. O. Box 33. Exec: Walter Reade Ct., 701 7th Ave., New York, N. Y. (792)

Tom's River, N. J., READE D. I. Exec: Walter Reade Ct., 701 7th Ave., New York, N. Y. (360)

Vineland, N. J., DELSEA D. I., Delsea Drive and Grant Ave. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (716)

Wildwood, N. J., WILDWOOD D. I., P. O. Box 22 (Rio Grande). Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (500)

Pennsylvania

(NOTE: See also Pittsburgh Territory)

Allentown, Pa., AIRPORT D. I., Route 987. Exec: Milgram Ths., 5e Avenue Th., Philadelphia. (800)

Allentown, Pa., BOULEVARD D. I., 556 Union Blvd., Rt. 22. Exec: Milgram Ths., 5e Avenue Th., Philadelphia. (930 and 380 Seats)

Barnesville, Pa., COUNTRY VIEW D. I. (Lakewood). Exec: John F. Wiedensaul, and Tri-States Buying and Booking Serv., Philadelphia. (400)

Bath, Pa., BATH D. I. Exec: John Van Auken, 426 E. North St., Bethlehem. (100)

Bensalem Twshp., Pa., LINCOLN D. I. (Langhorne), Roosevelt Blvd. and City Line. Exec: Neil Hellman. (925)

Berlinsville, Pa., ROUTE 45 D. I., Route 45. Exec: William D. Beck, Rt. 2, Walnutport. (500)

Brandonville, Pa., STARLITE D. I. (Formerly Brandonville), Route 924. Exec: Melvin Heinbach, St. Clair, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Burnham, Pa., BURNHAM D. I. (Lewistown), Logan Blvd. Exec: S. H. Rothermel, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (650)

Chambersburg, Pa., SUNSET D. I., R. D. #2. Exec: Harold J. Kagen, and Tri-States Buying and Booking Serv., Philadelphia. (500)

Clifton Heights, Pa., FAMILY D. I., 713 Baltimore Ave. Exec: V. C. Smith, 840 Cooper St., Camden, N. J. (700)

Coatesville, Pa., COATESVILLE D. I., Route 30. Exec: Milton Schosberg. (500)

Collinsville, Pa., COLLINSVILLE D. I. Exec: Ernest E. Ness. (125)

Dallas, Pa., DALLAS D. I., R. D. #1. Exec: L. E. Groff, 215 Reynolds St., Kingston, and Hardin Coon, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (850)

Danville, Pa., ARROW D. I. Exec: K. and B. Th. Co., Inc., and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (300)

Devon, Pa., MAIN LINE D. I. Exec: W. W. and V. C. Smith, 840 Cooper St., Camden, N. J. (800)

Dickson City, Pa., CIRCLE D. I., Route 6. Exec: Albert Frangel, 40 Main St., Simpson, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (700)

Dillsburg, Pa., HAAR'S D. I., R. D. #3. Exec: Vance W. Haar, and Milgrim Ths., 5e Avenue Th., Philadelphia. (520)

Drums, Pa., HAZLETON D. I., Route 309. Exec: Celeste Rossi, Jr., Beaver Meadows. (400)

Duncannon, Pa., HACKENBERG FAMILY D. I. Exec: J. J. Hackenberg. (250)

DuPont, Pa., COMERFORD D. I., DuPont Hwy. Exec: Comerford Ct., Scranton. (1000)

Dushore, Pa., DUSHORE D. I. Exec: George Gutta, P. O. Box 112, Milfred. (300)

Easton, Pa., EASTERN MEDINA D. I., Route 22. Exec: A. Adlman, and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (825 and 100 Seats)

Eddystone, Pa., CHESTER PIKE D. I., Route 13. Exec: A. M. Ellis Th. Ct., 1225 Vine St., Philadelphia. (700)

Espy, Scott Twshp., Pa., FAMILY D. I. (Bloomsburg), R. D. #5, Bloomsburg. Exec: J. Engle, Wilkes-Barre. (750)

Eynon, Pa., MID-VALLEY D. I. (Carbondale). Exec: Comerford Ct., Scranton. (800)

Frackville, Pa., HI-WAY D. I., Route 122. Exec: Paul Kerrigan. (400)

Freeland, Pa., POPULAR D. I., Route 490. Exec: J. Luzo, 87 Laurel St., Hazleton. (260)

Gratz, Pa., SKY VU D. I. Exec: Eston, Artz and Carl, Spring Glen, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (300)

Greentown, Pa., WHITE BEAUTY D. I. (Lake Wallenpaupak). Exec: Richard and Leonard Guccini, and Tri-States Buying and Booking Serv., Philadelphia. (200)

Halifax, Pa., TRIANGLE D. I. Exec: F. Schreib Higgins and L. Leitzel, Klingerstown, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (400)

Harrisburg, Pa., HARRISBURG D. I., Rt. 22 and Linglestown Rd. Exec: Paul Kerrigan, Frackville. (850)

Harrisburg, Pa., KEYSTONE D. I., Route 422. Exec: A. and L. Sablosky Ent., Norris Th., Norristown. (700)

Harvey's Lake, Pa., SANDY BEACH D. I. (Alderson). Exec: Sam Slomowitz, 189 Barney St., Wilkes-Barre. (500)

Hazleton, Pa., LAUREL D. I., P. O. Box 315L, R. D. #1. Exec: Anthony Sacco, 32 First Ave. (600)

Hogestown, Pa., SILVER SPRINGS D. I. (Harrisburg), Carlisle Pike, Rt. 11. Exec: R. J. Jones, Holly Th., Mt. Holly, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (750)

Hometown, Pa., VALLEY D. I. (Tamaqua), Rt. 2. Exec: Petrole Bros. (500)

Hummelstown, Pa., MIDWAY D. I. Exec: Elwood Whye, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (208)

Hummels Wharf, Pa., NUWAY D. I., Rt. 11-15, between Selinsgrove and Sunbury. Exec: M. L. Spiegelmeyer. (1000)

Hunlock Creek, Pa., CRAGLE'S GARDEN D. I., R. D. #2. Exec: T. R. Cragle, Gardens Amuse. Co. (418)

Indian Orchard, Pa., MAPLE D. I. Exec: Michael Delfino, R. D. #4, Honesdale, and Tri-States Buying and Booking Serv., Philadelphia. (250)

Krumsville, Pa., KRUMSVILLE D. I., Rt. 22. Exec: John Van Auken, 426 E. North St., Bethlehem. (100)

Lake Ariel, Pa., WAYNE D. I., Route 90. Exec: Dan Oncavage, and Tri-States Buying and Booking Serv., Philadelphia. (250)

Lancaster, Pa., SKY-VUE D. I., Route 30 East. Exec: H. Chertcoff Th. Ct. (925)

Langhorne, Pa., ROOSEVELT D. I. (Morrisville). Exec: Neil Hellman. (800)

Lebanon, Pa., KEY D. I., Lebanon and Reading Hwy. Exec: Comerford Ct., Scranton. (500)

Lehighton, Pa., MAHONING D. I., R. D. #1. Exec: Rappaport and Shirrar, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (600)

Lewistown, Pa., MIDWAY D. I., 29 N. Brown St. Exec: Irwin Berney, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (540)

Limerick, Pa., HIWAY D. I. Exec: William Goldman Ct., Philadelphia. (600)

Linden, Pa., HARVEST MOON D. I., P. O. Box 3. Exec: C. F. Beck. (300)

Lock Haven, Pa., PARK D. I. Exec: Blatt Bros. Ct., 1705 Blvd. of the Allies, Pittsburgh. (450)

Matamoras, Pa., MATAMORAS D. I., Box 569. Exec: Irving Hulst, 7 Winchester Ave., Middletown, N. Y., and Tri-States Buying and Booking Serv., Philadelphia. (400)

Millerstown, Pa., MILLERSTOWN D. I. Exec: Stanley Rothermel, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (Under Construction—200)

Montgomery, Pa., PIKE D. I. Exec: Charles Collins, 640 6th Ave., Williamsport. (600)

Moosic, Pa., OAKHILL D. I. Exec: Scavo Bros., 119 Oak St., Old Forge, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Morrisville, Pa., MORRISVILLE D. I. Exec: Bob Baranoff. (500)

Mountain Top, Pa., SUNSET D. I., Route 309. Exec: V. Novinski and Assoc. (250)

Mount Carmel, Pa., NATALIE D. I., Route 54. Exec: Max Korr Ct., Allentown. (700)

Muncy, Pa., STARLITE D. I., Rt. 202-14, P. O. Box 237. Exec: G. J. McFadden, Rialto Th., Renova. (720)

New Oxford, Pa., CROSS KEYS D. I., Lincoln Hwy., Box 25. Exec: H. C. Bondurant, P. O. Box 58, Gettysburg. (450)

Newton Lake, Pa., IDEAL D. I., Route 70. Exec: J. E. Cerra, Carbondale. (435)

Newville, Pa., CUMBERLAND D. I. (Formerly Newville), Carlisle-Shippensburg Rd. Exec: Don Mowery, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (500)

Norristown, Pa., RIDGE PIKE D. I. (Conshohocken), R. D. #2. Exec: A. and L. Sablosky Ent., Norris Th. (1000)

Orefield, Pa., SHANKWEILER'S D. I. Exec: W. F. Shankweiler. (274)

Orrtanna, Pa., CALEDONIA D. I., Hwy. 30, Rt. 1. Exec: H. C. Bondurant, P. O. Box 58, Gettysburg. (400)

Philadelphia, Pa., SOUTH CITY D. I., Broad St. and Pattison Ave. Exec: Charles Goldfine. (1200)

Pine Grove, Pa., PINE GROVE D. I., R. D. #2. Exec: Eston Artz, Spring Glen, and Tri-States Buying and Booking Serv., Philadelphia. (350)

Pottsville, Pa., POTTSVILLE D. I., Rt. 122, Mill Creek Rd. Exec: Charles Poorman, 640 Mauch Chunk St., and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (550)

Quakertown, Pa., STARLIGHT D. I. Exec: Ted Grance, Outdoor Ths., Inc., 1113 Plaza Bldg., Pittsburgh 19, Tom McCleary, Alexander Th. Supply, Pittsburgh, and Claude Schlanger. (Under Construction)

Rouzerville, Pa., RED RUN D. I. (Waynesboro), P. O. Box 527. Exec: W. R. Saunders, 207 First Federal Bldg., Wooster, O. (500)

Saylorsburg, Pa., BLUE RIDGE D. I. (Formerly Saylorsburg). Exec: Stanley and Raymond F. Mackes. (300)

Sayre, Pa., VALLEY D. I. Exec: J. Ryan, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (600)

Schuylkill Haven, Pa., RENNINGER D. I., Route 122. Exec: C. Swade, 48 S. Lehigh, Frackville. (400)

Shamokin, Pa., SHAMOKIN D. I., P. O. Box 291. Exec: Walter F. Finch, and Tri-States Buying and Booking Serv., Philadelphia. (200)

Shimersville, Pa., SHIMERSVILLE D. I. (Emmaus), R. D. 1. Exec: J. Christofaro. (276)

Springhouse, Pa., 309 D. I. (Montgomeryville), Box 164, Bethlehem Pike at Welsh Rd. Exec: V. C. Smith, 840 Cooper St., Camden, N. J. (550)

Stony Creek Mills, Pa., MT. PENN D. I., P. O. Box 965, Reading. Exec: Jay Emanuel Ths., and Fabian Ths., Philadelphia. (750)

Strinestown, Pa., STRINESTOWN D. I. Exec: G. W. Poe, Jr., R. D. #1, Manchester. (150)

Stroudsburg, Pa., POCONO D. I. (Bartonsville), Rt. 611. Exec: Alfred Mazur, and Melvin Heinbach, St. Clair, and Tri-States Buying and Booking Serv., Philadelphia. (600)

Temple, Pa., READING D. I., Berkley Rd., Rt. 222, Box 408. Exec: Jay Emanuel Ths., and Fabian Ths., Philadelphia. (844)

Thomasville, Pa., LINCOLN D. I. (York Co.), Rt. 30. Exec: H. J. Halliwell, C. Smyth, E. M. Thorne, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (816)

Tunkhannock, Pa., STARLITE D. I. (Eatonville), R. D. #5. Exec: Marvin Sands, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (250)

Wellsboro, Pa., "Y" D. I. Exec: Larry Woodin, Arcade Th., and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (300)

West Chester, Pa., 202 D. I. (Painter's Crossroads), General Delivery. Exec: Ike L. Lenz, P. O. Box 116, West Chester, and Tri-States Buying and Booking Serv., Philadelphia. (500)

West Milton, Pa., SILVER MOON D. I., Rt. 15 between Lewisburg and West Milton. Exec: Frank Lewis and Frank W. Royer, P. O. Box 631, Lewisburg, and Tri-States Buying and Booking Serv., Philadelphia. (600)

West Wyoming, Pa., MOONLITE D. I., 1190 Shoemaker Ave. Exec: James Rizzo. (421)

Wilkes-Barre, Pa., MIDWAY D. I., R. D. #2. Exec: James M. and Rocco Castrignano, 17 Glen St., and Tri-States Buying and Booking Serv., Philadelphia. (350)

Williamsport, Pa., LYCOMING D. I., 21 Washington Blvd. Exec: Albert L. Shafer. (800)

Williamstown, Pa., TEMPLE D. I., Tower City-Lykens Rd. Exec: John Shabe. (300)

Wysox, Pa., WYSOX D. I. Exec: Marvin Sands, Tunkhannock, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (400)

York, Pa., STONY BROOK D. I. (East York), Route 30. Exec: R. S. Nessley, and Allied Motion Picture Serv., 219 N. Broad St., Philadelphia. (825)

PITTSBURGH TERRITORY

Pennsylvania

(NOTE: See also Philadelphia Territory)

Aliquippa, Pa., GREEN GARDENS D. I., Hopewell Township. Exec: James and Joseph Taylor, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (350)

Aliquippa, Pa., KANE ROAD D. I. Exec: Stephen Grny. and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Altoona, Pa., ALTOONA D. I., Route 36. Exec: Earl Beckwith, Blatt Bros. Ths., 1705 Blvd. of the Allies, Pittsburgh. (700)

Altoona, Pa., SUPER 220 D. I. Exec: Grance Outdoor Ths., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (600)

Baden, Pa., ABC D. I., Rt. 88, P. O. Box 142. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Louis Hanna, Hanna Th. Service, Pittsburgh. (750)

Beaver, Pa., TUSCA D. I., Box 122. Exec: Dr. Lewis H. Urling, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Beaver Falls, Pa., HI-WAY 51 D. I., Route 51. Exec: John Wincek and Ralph Tate, 226 Meyer Ave., New Castle, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Beaver Falls, Pa., SPOTLIGHT 88 D. I., Route 88. Exec: Ralph Felton, 1025 Rose Ave., New Castle, and Louis Hanna, Hanna Th. Service, Pittsburgh. (600)

Bedford, Pa., MOONLIGHT D. I., R. D. #2. Exec: Al Burtnett, 113 W. Pitt St. (350)

Belle Vernon, Pa., SUPER #71 D. I., Rts. 71 and 711. Exec: Danny Costello, and Vincent Corso, Star Distr. Agy., Pittsburgh. (700)

Ben Avon, Pa., R. D. 3 (Pittsburgh 2), CAMP HORNE D. I. (Ohio Twnshp.). Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (600)

Bridgeville, Pa., EL RANCHO D. I., Route 28, Box 231. Exec: Romeo Chiappini and John Rossino, 800 Michigan Ave., Jennette, and Louis Hanna, Hanna Th. Service, Pittsburgh. (750)

Brookville, Pa., MOONLIGHT D. I., R. D. #4. Exec: O. A. Holobough, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Brownsville, Pa., FICK'S D. I., P. O. Box 127. Exec: Moody and Baker. (400)

Butler, Pa., GEIBEL'S D. I., Route 68, R. D. #2. Exec: J. Geibel, and Louis Hanna, Hanna Th. Service, Pittsburgh. (200)

Butler, Pa., HILL-TOP D. I. Exec: Howard H. Smith and R. N. Trautman, and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Buler, Pa., SKYWAY AUTO D. I. (Formerly Butler), Route 68, P. O. Box 647. Exec: A. B. Caldwell, Jr., and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Carmichaels, Pa., SKYVIEW D. I., Route 88. Exec: L. Stutler, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (350)

Carroltown, Pa., HI-WAY D. I. Exec: Thomas Woods, and John M. Ridilla, P. O. Box 150, Latrobe. (300)

Chicora, Pa., CHICORA D. I. (Butler Co.). Exec: Earl Beckwith, Blatt Bros. Ths., 1705 Blvd. of the Allies, Pittsburgh. (350)

Circleville, Pa., MAPLE D. I. Exec: Max Arnold and Jack Judd, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (900)

Clarion, Pa., MIDWAY D. I., 108 Greenville Ave. Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh 19. (425)

Claysville, Pa., SUNSET BEACH D. I., Rt. 40, R. D. #1. Exec: C. M. Ducray, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Clearfield, Pa., SUPER 322 D. I. Exec: Theodore Grance, 1113 Plaza Bldg., Pittsburgh, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (600)

Conneaut Lake, Pa., LAKESIDE D. I. Exec: Fred E. Hasley. (400)

Caraopolis, Pa., KENMAWR D. I. Exec: Grance Outdoor Ths., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (400)

Corry, Pa., CORRY D. I. Exec: Earl Beckwith, Blatt Bros. Ths., 1705 Blvd. of the Allies, Pittsburgh 19. (350)

Crafton, Pa., TWIN HI-WAYS D. I. Exec: Twin Hi-Way Corp., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (1000)

Cranberry, Pa., SKY HI D. I., Rts. 322 and 257. Exec: Ray Woodard, Kayton Th., Franklin. (432)

Donaldson Corners, Pa., MT LEBANON D. I. (Canonsburg), Rt. #19. Exec: William Basle, Basle Th., Washington, and Moore Th. Service, Pittsburgh. (350)

Dubois, Pa., HI-WAY D. I. Exec: A. P. Way, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (350)

Dunbar Twp., Pa., BLUE RIDGE D. I. Exec: Ted Laskey, Laskey Bros., 131 E. Fayette, Uniontown, and Moore Th. Serv., Pittsburgh. (400)

Dunbar Twp., Pa., COMET D. I. Exec: Louise Cuppiraggi, and A. C. DeMichelis, Strand Th., Dunbar, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Ellwood City, Pa., BLUE SKY D. I., Zelienople Rd. Exec: John Favorite, 424 E. Washington St., New Castle, and Vincent Corso, Star Distr. Agy., Pittsburgh. (450)

Erie, Pa., LAKEVIEW D. I., R. D. #7. Exec: Tommy Cowell, and Louis Hanna, Hanna Th. Service, Pittsburgh. (1000)

Erie, Pa., LAWRENCE PARK D. I. Exec: Earl Beckwith, Blatt Bros. Ths., 1705 Blvd. of the Allies, Pittsburgh. (350)

Erie, Pa., SKYWAY D. I., Rt. 5, 1012 Holland St. Exec: Dipson Th. Entr., and Louis Hanna, Hanna Th. Service, Pittsburgh. (550)

Erie, Pa., STAR D. I., 2515 W. 12th St., Rt. 5. Exec: Earl Beckwith, Blatt Bros. Ths., 1705 Blvd. of the Allies, Pittsburgh. (572)

Erie, Pa., SUPER #19 D. I. (Kearsage). Exec: Pete Camerlo. (500)

Freeport, Pa., SUNSET D. I. Exec: Hilltop Amuse. Co., Ray Woodard, Kayton Th., Franklin. (550)

Geistown, Pa., RICHLAND D. I. Exec: Somerset Amuse. Co., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (450)

Greensburg, Pa., ODIN D. I. Exec: Thomas Woods, P. O. Box 150, Latrobe, and John M. Ridilla. (400)

Greentree Boro, Pa., GREENTREE D. I. (Pittsburgh 20), Mansfield-Noblestown Rd. Exec: Mrs. Charles Herman, Mrs. Wm. and Mrs. Harry Walker, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (600)

Grove City, Pa., LARKFIELD D. I., 313 Garden Ave. Exec: Chester Marsh, and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Harmarville, Pa., HARMAR D. I. Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (600)

Harrison City, Pa., ROSE D. I. Exec: Joseph Warren, and Vincent Corso, Star Distr. Agy., Pittsburgh. (800)

Huntingdon, Pa., HUNTINGDON D. I. Exec: Theodore Grance, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (375)

Imperial, Pa., PENN-LINCOLN D. I., Rts. 22 and 30. Exec: Theodore Grance, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (350)

Indiana, Pa., PALACE GARDENS D. I. Exec: John Kerzan, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Indian Head, Pa., VALLEY D. I., R. D. #3, Box 296. Exec: Richard Sparks, and Louis Hanna, Hanna Th. Serv., Pittsburgh (300)

Irwin, Pa., SUPER #30 D. I., Route 30, R. D. #6. Exec: Joseph Warren, and Vincent Corso, Star Distr. Agy., Pittsburgh. (700)

Jefferson Township, Pa., COLONIAL D. I. (Pittsburgh). Exec: Norbert and Ernest Stern, Assoc. Drive-Ins, Pittsburgh. (500)

Johnstown, Pa., WESTMONT D. I. Exec: County Amusement, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (800)

Kane, Pa., IDEAL D. I. Exec: Joseph Farrell, and Clyde Picarilli, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Kittanning, Pa., COMMUNITY D. I., Route 422. Exec: Norbert and Ernest Stern, Assoc. Drive-Ins, Pittsburgh. (300)

Latrobe, Pa., HI-WAY D. I., Route 30, Box 150. Exec: Thomas Woods and John M. Ridilla, P. O. Box 150. (400)

Lemont Furnace, Pa., STARLITE D. I., Route 119. Exec: Ted Laskey, 131 E. Fayette St., Uniontown, and Moore Th. Service, Pittsburgh. (600)

Manifold, Pa., ROUTE #19 D. I., Route 19. Exec: William Basle, Basle Th., Washington, and Moore Th. Service, Pittsburgh. (500)

McKeesport, Pa., RAINBOW GARDENS D. I., Lincoln Highway and Rt. 88, P. O. Box 526, R. D. #1. Exec: Joseph Volpe, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (300)

Meadville, Pa., AIRWAY D. I., Route 19. Exec: Edward F. Dodge, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (385)

Monongahela, Pa., HILLTOP D. I., Route 877, R. D. #1. Exec: Lindley B. Dugan, Oliver Kinnear, and Louis Hanna, Hanna Th. Service, Pittsburgh. (400)

Monroeville, Pa., ROUTE #22 D. I. (Pittsburgh). Exec: Allied Drive-In Mgr. Corp., 540 Leader Bldg., Cleveland 15, Ohio. (700)

Moon Township, Pa., DEPENDABLE D. I. (Cornopolis Hgts.). Exec: Norbert and Ernest Stern, Assoc. Drive-In Ths., Pittsburgh (400)

Mundys Corner, Pa., FAMILY D. I., Route 22. Exec: Gus Vaveris, Strand Th. Bldg., Johnstown. (565)

New Castle, Pa., SKYLINE D. I., Route 224, 14 Magee St. Exec: Anthony, George, John and Carolyn Warren and Joseph Palmeri, and Louis Hanna, Hanna Th. Service, Pittsburgh. (450)

New Castle, Pa., SUPER CASTLE D. I., Route 422. Exec: D. Castelli, and Vincent Corso, Star Distr. Agy., Pittsburgh. (750)

New Kensington, Pa., FAMILY D. I., Rt. 56, Box 12. Exec: Z. L. Bass, and Louis Hanna, Hanna Th. Service, Pittsburgh. (680)

North Huntingdon Township, Pa., BLUE DELL D. I. Exec: Norbert and Ernest Stern, Assoc. Drive-Ins, Pittsburgh. (500)

Parnassus, Pa., GATEWAY D. I. (New Kensington). Exec: Serrao Bros., Circle Th., New Kensington. (525)

Pittsburgh, Pa., SILVER LAKE D. I., 809 Liberty Ave. Exec: Gabe Rubin, 970 Washington Blvd. (550)

Pittsburgh, Pa., SOUTH PARK D. I., Rt. 88, 436 4th Ave. Exec: Norbert and Ernest Stern, Assoc. Drive-Ins. (400)

Punxsutawney, Pa., STARLITE D. I., Route 30, 521 N. Main. Exec: Bert S. Fetterman, and Louis Hanna, Hanna Th. Service, Pittsburgh. (450)

Richland Township, Pa., RANALLI D. I. Exec: Marco Ranalli, and Louis Hanna, Hanna Th. Service, Pittsburgh. (400)

Roulette, Pa., ROULETTE D. I. Exec: Cliff Brown. (400)

Saint Marys, Pa., FAIRVIEW D. I., Rt. 255, Box 342, Windfall Rd. Exec: Joseph A. Farrell, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Scottdale, Pa., EVERGREEN D. I., Box 71. Exec: Donald J. Ruth, Ruthorn Entr., and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

Sewickley, Pa., BROOKSIDE D. I., Warrendale Rd., P. O. Box 199, R. D. #2. Exec: R. W. Thomson, Jr., and Vincent Corso, Star Distr. Agy., Pittsburgh. (400)

Sharon, Pa., HICKORY D. I., Route 62. Exec: Chris Lampros, 636 New Castle Rd., Farrell. (650)

Smithfield, Pa., MOONLIGHT D. I., Route 119. Exec: Steve Danko, Danko, Sharpe and Dugan, and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Somerset, Pa., ROOF GARDEN D. I. Exec: J. R. Betters, Vogue Terrace, McKeesport, and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

Springboro, Pa., MAPLE D. I., Route 18. Exec: Paul Remaley, and Louis Hanna, Hanna Th. Service, Pittsburgh. (350)

State College, Pa., STARLIGHT D. I. Exec: F. and S. Drive-In Th. Co., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (600)

Titusville, Pa., AUTO D. I. Exec: A. V. Kunes, Drake Amuse. Co., 732 E. Main, and Louis Hanna, Hanna Th. Service, Pittsburgh. (500)

Transfer, Pa., REYNOLDS D. I., Greenville Rd., Rt. 18. Exec: Carl McKnight, Youngstown, Ohio, and Bert Stearn, Co-operative Th. Serv., Pittsburgh. (400)

Uniontown, Pa., SUPER 51 D. I. (Formerly Rainbow), Route 51. Exec: Ted Laskey, Laskey Bros., 131 E. Fayette St., Uniontown, and Moore Th. Service, Pittsburgh. (450)

United, Pa., RUSTIC D. I. Exec: Bernard Buckheidt. (350)

Vandergrift, Pa., LEE'S WOODLAND D. I., R. D. #1. Exec: Harold A. Lee, and Louis Hanna, Hanna Th. Service, Pittsburgh. (250)

Warren, Pa., WHITEWAY D. I., Rt. 6, R. D. #3. Exec: Ben White, and Louis Hanna, Hanna Th. Service, Pittsburgh. (400)

Waterford, Pa., SUNSET D. I., Route 97. Exec: Ray Woodward, Kayton Th., Franklin. (350)

Waynesburg, Pa., WAYNESBURG D. I., Route 180. Exec: Louis Stuler, Durward Coe, and Bert Stearn, Co-operative Th. Service, Pittsburgh. (300)

West Brownsville, Pa., CUPPIES D. I. Exec: J. K. Knupp, and Vincent Corso, Star Distr. Agy., Pittsburgh. (520)

Wexford, Pa., STARLIGHT D. I., Route 19. Exec: J. H. B. Entr., and Bert Stearn, Co-operative Th. Service, Pittsburgh. (700)

Windber, Pa., SILVER D. I., P. O. Box 487. Exec: John McKool and Maurice Fruhlinger, and Louis Hanna, Hanna Th. Service, Pittsburgh. (300)

West Virginia

(NOTE: See also Cincinnati and Washington Territories)

Arthurdale, W. Va., BIRDS CREEK D. I. Exec: Lester Kaufman. (100)

Blacksville, W. Va., BLACKSVILLE D. I. Exec: Guy Pauley, and Gray Barker, Box 981, Clarksburg. (200)

Buckhannon, W. Va., WEST'S D. I. Exec: Garland West, and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (350)

Camden-On-Gauley, W. Va., WEBSTER SPRINGS D. I. Exec: Arden Richards and Gray Barker, Box 981, Clarksburg. (150)

Chester, W. Va., HILLTOP D. I., R.F.D. #1. Exec: Charles Pittinger, and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (300)

Clarksburg, W. Va., ELLIS D. I., Route 2. Exec: Ellis Bros., and Joseph Feeney. (300)

Clarksburg, W. Va., SNYDER D. I. (Park), Box 78. Exec: Clarence Snyder, and Gray Barker, Box 981. (300)

Clarksburg, W. Va., WARNER'S SKYLINE D. I., Route 19. Exec: Charles Warner, and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (400)

Craigsville, W. Va., OUTDOOR D. I. Exec: Gray Barker, Box 981, Clarksburg. (200)

Elkins, W. Va., ELKINS D. I., Route 33. Exec: Bretsel Lang, Harold Talbott, and Gray Barker, Box 981, Clarksburg. (250)

Ellenboro, W. Va., RITCHIE D. I. Exec: J. Vogedling. (112)

Elm Grove, W. Va., GROVE D. I. Exec: John Gardner. (500)

Fairmont, W. Va., STARLITE D. I., Pleasant Valley Rd. Exec: Ted Laskey, Laskey Bros., 131 E. Fayette, Uniontown, Pa., and Moore Th. Service, Pittsburgh, Pa. (500)

Fairmont, W. Va., TWILIGHT D. I., Box 949. Exec: Theodore Reynolds, R. Hall, B. Artman, and Gray Barker, Box 981, Clarksburg. (500)

Fairview, W. Va., FAIRVIEW D. I. Exec: A. Mercer, and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (200)

Farmington, W. Va., LAZY A D. I. Exec: E. C. Wilson. (250)

Follansbee, W. Va., OHIO VALLEY D. I., 339 Main St. Exec: Thomas Anas, and Bert Stearn Co-operative Th. Service, Pittsburgh, Pa. (300)

Glendale, W. Va., GLENDALE D. I. Exec: Bert Stearn, Co-operative Th. Service, Pittsburgh, Pa. (350)

Grafton, W. Va., GRAFTON D. I. Exec: James Compton, and Gray Barker, Box 981, Clarksburg. (250)

Grantsville, W. Va., COOK'S D. I. Exec: John Cook. (190)

Mannington, W. Va., BLACKSHERE PARK D. I. Exec: C. P. Church. (400)

Meadowbrook, W. Va., SUNSET D. I., Route 19. Exec: Alex Silay, and Gray Barker, Box 981, Clarksburg. (400)

Metz, W. Va., WILSON D. I., Route 250. Exec: Ernest L. Wilson, Box 16. (150)

Montrose, W. Va., FRIENDLY D. I., Route 219. Exec: Robert E. Phares, and Gray Barker, Box 981, Clarksburg. (150)

Morgantown, W. Va., ROUTE 19 D. I. (Formerly Bunker Hill), Fairmount Rd. 19. Exec: Robert L. Bartlett. (400)

Morgantown, W. Va., OAKS D. I., 174 Fayette St. Exec: Jack Maple and George Sallows, Barneys Th., Point Marion, Pa. (500)

Morgantown, W. Va., TOWN AND COUNTRY D. I., Cheat Canyon Park. Exec: William Coburn, 449 Sanford St., and Gray Barker, Box 981, Clarksburg. (200)

Morgantown, W. Va., WESTOVER D. I. Exec: M. J. Bell, 701 University, and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (500)

Mount Harmony, W. Va., MT. HARMONY D. I. Exec: E. C. Wilson, P. O. Box 16, Metz. (200)

New Martinsville, W. Va., SKYWAY D. I. Exec: James Work. (300)

New Martinsville, W. Va., WORK'S D. I. Exec: James Work. (400)

Phillipi, W. Va., SKYVIEW D. I. Exec: Alex Silay, and Steve Medve, and Gray Barker, Box 981, Clarksburg. (400)

Reedsville, W. Va., PINEVIEW D. I. Exec: Gray Barker, Box 981, Clarksburg. (152)

Short Creek, W. Va., STARLITE D. I. Exec: George M. Kellus, 834 Main, Wheeling. (200)

Smithburg, W. Va., STARDUST D. I. Exec: E. C. Wilson, P. O. Box 16, Metz. (110)

Weirton Heights, W. Va., BELLAIRE D. I. Exec: J. and M. Yucos, 6 Park Ave., and Louis Hanna, Hanna Th. Service, Pittsburgh, Pa. (350)

Wellsburg, W. Va., BLUE MOON D. I., P. O. Box 489. Exec: Camillo Cionni, Box 489. (300)

Weston, W. Va., LOVETTS D. I. Exec: Gray Barker, Box 981, Clarksburg. (150)

PORTLAND TERRITORY

Oregon

(NOTE: See also San Francisco Territory)

Albany, Ore., ALBANY D. I. Exec: Midway Ths., Inc., and Mark McDougald, A. Adamson Ct., 1923 N.W. Kearney, Portland 9. (500)

*Amity, Ore., AMITY FAMILY D. I. Exec: E. W. Burnett. (16mm.)

Baker, Ore., OLD TRAIL D. I., Box 641. Exec: Stanley Voeller. (308)

Beaverton, Ore., CANYON D. I. Exec: Mark McDougald, Adamson Ct., 1923 N.W. Kearney, Portland 9. (448)

Bend, Ore., BEND D. I. Exec: Andy Anderson, Forman Bros., Public Service Bldg., Portland. (368)

Burns, Ore., SUNDOWN D. I. Exec: Combs and Racine. (450)

Carlton, Ore., CORRAL D. I. (McMinnville). Exec: C. J. Briggs, Carlton Th. (396)

Coos Bay, Ore., BAY D. I. Exec: Stanley R. McSwain, Western Amuse., H. M. Lockhart. (509)

Coquille, Ore., MYRTLE LANE D. I. Exec: Mr. and Mrs. Lloyd Claver, Coquille Ths. (342)

Cornelius, Ore., CAR VUE D. I. Exec: Pat Patterson, Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (462)

Corvallis, Ore., MIDWAY D. I. (Albany), Rt. #1. Exec: Mark McDougald, Adamson Ct., 1923 N.W. Kearney, Portland 9. (488)

Cottage Grove, Ore., MORELOCK D. I. Exec: Cleo Morelock, Arcade Th. (385)

Dallas, Ore., MOTOR-VUE D. I. Exec: Creek Corp., and Pat Patterson, Oregon Ths. Co-op., Portland. (350)

DeLake, Ore., SWAN D. I., P. O. Box 524. Exec: Charles Slaney. (392)

Empire, Ore., MOTOR VUE D. I. (Coos Bay), Box 203. Exec: William Graeper, and Pat Patterson, Oregon Ths. Co-Op., 831 N.W. 18th St., Portland. (392)

Enterprise, Ore., GAY D. I. Exec: A. B. Stockdale. (350)

Eugene, Ore., EUGENE D. I., 2860 S. Willamette. Exec: Ted Gamble. (600)

Eugene, Ore., NORTH END D. I., 3720 Dove Lane. Exec: A. B. Olsen. (420)

Florence, Ore., RHODODENDRON D. I. Exec: M. E. Ritter, Jr. (350)

Gearhart, Ore., SUNSET D. I., P. O. Box 517. Exec: Pat Patterson, Oregon Ths. Co-Op., 831 N.W. 18th St., Portland. (430)

Grants Pass, Ore., REDWOOD D. I. Exec: Grants Pass Drive-In Ths., and Charles Mangel, Rogus Th. (500)

Hermiston, Ore., GROVE D. I. Exec: L. A. Moore, Oasis Th. (480)

Hood River, Ore., TRAILS D. I. Exec: Jones Entr. (400)

Hubbard, Ore., HUBBARD D. I. Exec: Tom Moyer Ths. (400)

Junction City, Ore., VISTA D. I. Exec: Bill Thrall. (300)

LaGrande, Ore., LaGRANDE D. I. Exec: W. J. Shell, Box 771. (350)

Lebanon, Ore., DRIVE IN. Exec: Western Amuse. (Under Construction)

Lebanon, Ore., MOTOR VUE D. I. Exec: Tadd Nelson. (540)

Madras, Ore., K AND D D. I. Exec: K and D Ths. (300)

Medford, Ore., ROGUE D. I. Exec: Dan Pavich, R. L. Lippert Ths. Ct., 1069 Market St., San Francisco, Cal. (500)

Medford, Ore., STARLITE D. I. Exec: Dan Pavich, R. L. Lippert Ths. Ct., 1069 Market St., San Francisco, Cal. (620)

Medford, Ore., VALLEY D. I. Exec: Aubrey Smith. (436)

*Mount Pleasant, Ore., DRIVE IN. Exec: Richard Larson. (500) (16mm.)

Myrtle Creek, Ore., TRI-CITY D. I., Hwy. 99 So. Exec: W. E. Love and J. H. Markham. (500)

Newberg, Ore., 99 W D. I. Exec: Ted Francis. (350 Under Construction)

Newport, Ore., YAQUINA D. I. Exec: McKivett's, Inc. (398)

Oregon City, Ore., OREGON CITY D. I. Exec: Richard Larson, Oregon Ths. Co-Op. 831 N.W. 18th St., Portland. (300)

Pendleton, Ore., PENDLETON MOTOR IN, Rt. 1, Box 145-A. Exec: John Matlock, and Mark McDougald, Adamson Ct., 1923 N.W. Kearney, Portland 9. (300)

Portland, Ore., AMPHITHEATRE D. I., 9727 N.E. Union Ave. Exec: Andy Anderson, Forman Bros., Public Service Bldg. (692)

Portland, Ore., BARBUR BLVD. D. I., S.W. Barbur Blvd. and 35th Ave. Exec: Pat Patterson, Oregon Ths. Co-Op., 831 N.W. 18th St. (550)

Portland, Ore., DIVISION ST. D. I., 16501 S.E. Division. Exec: Tommy Moyer, 1404 S.E. Tacoma. (300)

Portland, Ore., 82ND ST. D. I., 9600 S.E. 82nd. Exec: Andy Anderson, Forman Bros., Public Service Bldg. (820)

Portland, Ore., POWELL BLVD. D. I. Exec: Powell Blvd. Drive-In Th., Inc. (600)

Portland, Ore., POWELL VALLEY D. I. Exec: Tommy Moyer, and Oregon Ths. Co-Op, 831 N.W. 18th. (1000)

Portland, Ore., SANDY BLVD. D. I., 9345 N.E. Sandy Blvd. Exec: Andy Anderson, Forman Bros., Public Service Bldg. (890)

Portland, Ore., SUPER 99 D. I., Highway 99. Exec: Andy Anderson, Forman Bros., Public Service Bldg. (620)

Prineville, Ore., PATIO D. I. Exec: K and D Ths. (300)

Redmond, Ore., ODEM-MEDO D. I. Exec: Milton L. Odem, and Pat Patterson, Oregon Ths. Co-Op, 831 N.W. 18th, Portland. (350)

Reedsport, Ore., SHORELINE D. I., Highway 101. Exec: F. Earl Blatazar, Pacific Th. (300)

Roseburg, Ore., DRIVE IN. Exec: Umpqua Amuse. Co. (Under Construction)

Roseburg, Ore., PINE MOTOR IN, Highway 99. Exec: Don Radabaugh, Indian Th. (495)

*Saint Helens, Ore., CARPORT D. I. Exec: Doug Martin. (279) (16mm.)

Salem, Ore., SALEM D. I., Rt. 2, Box 347-K. Exec: Andy Anderson, Forman Bros., Public Service Bldg., Portland. (578)

Silverton, Ore., MOTOR-VUE D. I. Exec: Creek Corp., and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (350)

Springfield, Ore., CASCADE D. I., P. O. Box 218. Exec: Western Amuse. Co. (491)

Springfield, Ore, MOTOR-VU D. I., P. O. Box 726. Exec: Pat Patterson, Oregon Ths. Co-Op., 831 N.W. 18th St., Portland (486)

*Sublimity, Ore., CENTRAL D. I. Exec: Central Drive-In Ths., Inc. (200) (16mm.)

Sutherlin, Ore., CLOVERLEAF D. I. Exec: Wood and Ulett Ths. (300)

The Dalles, Ore., DALLES D. I. Exec: John Danz, Sterling Th., Inc., Palomar Th. Bldg., Seattle 1, Wash. (391)

The Dalles, Ore., STARLITE D. I. Exec: Moore and Eschebeck. (350)

Tillamook, Ore., TILL-A-VUE D. I. Exec: Dude Smith, 1332 N.E. 37th, Portland. (440)

Woodburn, Ore., DRIVE IN. Exec: Westenskow Th. Co. (350)

Washington

(NOTE: See also Seattle Territory)

Camas, Wash., AUTO-VUE D. I. Exec: Jack Braxton. (400)

Longview, Wash., YOUR D. I., Box 899. Exec: John Danz, Sterling Ths., Inc., Palomar Th. Bldg., Seattle 1. (550)

Vancouver, Wash., HAZEL DELL D. I. Exec: Mark McDougald, Adamson Ct., 1923 N.W. Kearney St., Portland, Ore. (400)

Vancouver, Wash., RENFRO D. I. Exec: Mark McDougald, Adamson Ct., 1923 N.W. Kearney St., Portland, Ore. (485)

White Salmon, Wash., DRIVE IN. Exec: (Unknown). (Under Construction)

SAINT LOUIS TERRITORY

Illinois

(NOTE: See also Chicago and Des Moines Territories)

Alton, Ill., STARLITE D. I., Rt. 140. Exec: Tom L. Bloomer, Ritz Th., Bellville. (485)

Anna, Ill, ANNA D. I. Exec: Rodgers Ths., 230 8th St., Cairo. (428)

Beardstown, Ill., STARLIGHT D. I. Exec: Pirtle Ct., Orpheum Th., Jerseyville. (350)

Belleville, Ill., SKYVIEW D. I. Exec: Tom L. Bloomer, Ritz Th. (900 and 200 Seats)

Benton, Ill., MIDWAY D. I. Exec: Sullivan and Strauss. (450)

Benton, Ill., PARK D. I. Exec: W. L. Ozburn and Sam Marshall. (400)

Breeze, Ill., AVON D. I. Exec: Bernard Temborious. (265)

Cairo, Ill., 51 D. I. Exec: H. Eichhorn, Roxy Th., Mounds. (425)

Camargo, Ill., OKAW D. I. Exec: Thomas Falk. (300)

Carbondale, Ill., WARING AUTO D. I., Rt. 13. Exec: W. E. Waring, Jr., Ritz Th., Cobden. (500)

Carlinville, Ill., DIANE D. I. Exec: Mrs. Frieda Paul and Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (280)

Carlyle, Ill., CAR-BREEZ D. I. Exec: Dominic Frisian and Charles Benhati. (–)

Carmi, Ill., 460 D. I., U. S. 460 East of Carmi. Exec: R. Tolliver, Ritz Th., Cisne. (500)

Casey, Ill., K-B D. I. Exec: Tom Falk. (300)

Centralia, Ill., CENTRALIA D. I., Rt. 16, P. O. Box 47. Exec: Lloyd Spurgeon. (500 and 200 Seats)

Charleston, Ill., E-I D. I. Exec: Tom Falk. (420)

East St. Louis, Ill., E. ST. LOUIS D. I., R. R. 50, Rt. 159, French Village. Exec: I. Wienshienk, Grand Th., Alton. (567)

East St. Louis, Ill., MOUNDS D. I. (Collinsville). Exec: Millard Komm, Komm Ct., 2227 S. Broadway, St. Louis 4, Mo. (700)

Effingham, Ill., RUSTIC STARLITE D. I., Route 40. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Fairfield, Ill., FAIRFIELD D. I. Exec: Louis LaGreco. (350)

Farina, Ill., 37 D. I. Exec: Robert P. McNeely, Box 422, Louisville. (250)

Flora, Ill., RENDEZVOUS D. I., Rt. 45, P. O. Box 92. Exec: Harry Jones, Valley Drive-In Corp. (400)

Harrisburg, Ill., HARRISBURG D. I. Exec: O. J. Ingram. (465)

Harrisburg, Ill., STARLITE D. I. Exec: O. L. Turner, Jr., Turner-Farrar Ths., Orpheum Th. (550)

Herrin, Ill., EGYPTIAN D. I., Box 248, Rt. 148, 4 C Lane. Exec: Wayne L. Smith. (400)

Herrin, Ill., MARLOW'S D. I., Route 148. Exec: John Marlow. (1000)

Highland, Ill., AIR PARK D. I., Hwy. 40. Exec: J. Schrempp, Nat. Th. Supply, 3212 Olive St., St. Louis, Mo. (200)

Jacksonville, Ill., 67 D. I., P. O. Box 170. Exec: H. Busey, P. O. Box 170. (350)

Litchfield, Ill., SKYVIEW D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Mattoon, Ill, SKYWAY D. I. Exec: Mattoon Th. Co., controlled by Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (536)

McLeansboro, Ill., SUNSET D. I. Exec: C. F. Downen. (250)

Metropolis, Ill., EL CAPITAN D. I., Route 25. Exec: Ed Clark, Massac Th. (500)

Metropolis, Ill., AUTO-VUE D. I. Exec: Ed Clark, Massac Th. (391)

Mount Carmel, Ill., CARMEL D. I. Exec: Keith Coleman, American Th. (400)

Mount Carmel, Ill., TWIN D. I. Exec: A. J. Katz Ent. (500)

Mount Carmel, Ill., ZION D. I. Exec: A. Smith and Assoc. (500)

Mount Olive, Ill., SUNSET D. I., Near U. S. 66 and Ill. 138. Exec: Louis Odorizzi. (250)

Mount Vernon, Ill., MT. VERNON D. I., Rt. 48. Exec: Frank Glenn, Tamaroa. (500)

Mount Vernon, Ill., STARLAND D. I. Exec: Frank Glenn, Tamaroa. (700)

Newton, Ill., FAIRVIEW D. I. Exec: C. B. Simmons, Cisne. (250)

Olney, Ill., OLNEY D. I., Hwy. 50. Exec: R. Worthey, Box 41. (300)

Pana, Ill., TANNER D. I. Exec: Herman Tanner, Liberty Th., Vandalia. (400)

Paris, Ill., TWIN LAKES D. I., North Main, Rt. 1. Exec: E. L. Staup. (500)

Quincy, Ill., GEM CITY D. I., P. O. Box 635. Exec: Robert Ellery, Gem City Drive-In Corp. (500)

Quincy, Ill., QUINCY D. I., P. O. Box 348. Exec: Robert J. Schmitt, and Andy Deitz. (1000)

Robinson, Ill., GORDON D. I., Gordon Junction. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (450)

Salem, Ill., CLUSTER D. I., Hwy. 37. Exec: Loren Cluster, Lyric Th. (600)

Sandoval, Ill., HOLLYWOOD D. I., Hwy. 50. Exec: Rollen Robinson. (300)

Shelbyville, Ill., KAY D. I. Exec: M. Stewartson. (350)

Springfield, Ill., 66 D. I. Exec: Kerasotes Ths., Kerasotes Th. Bldg. (1200)

Springfield, Ill., SPRINGFIELD D. I., Hwys. 66 and 29. Exec: Frisina Amuse. Co., Roxy Th. Bldg. (1200 and 150 Seats)

Steeleville, Ill., ARROW D. I. Exec: Stuart Morgenstern. (400)

Sullivan, Ill., SULLIVAN D. I. Exec: Lee Norton. (300)

Summer Hill, Ill., CLARK D. I. Exec: Clark and Russell Armentrout, Clark Th., Louisiana, Mo. (350)

Tamaroa, Ill., MELODY D. I., Hwy. 51. Exec: Frank Glenn. (400)

Taylorville, Ill., FRISINA D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Thayer, Ill., ROUTE #4 D. I. Exec: William Swift, Gaiety Th., Virden. (300 and 100 Seats)

Vandalia, Ill., TANNER D. I. Exec: Herman Tanner, Liberty Th. (400)

West Roodhouse, Ill., DRIVE IN (Alsey-Winchester), Rt. 106. Exec: Tom Danner and P. E. Stehman. (200)

Woodriver, Ill., ALTWOOD D. I. (East Alton), Old St. Louis Rd. Exec: Dubinsky Bros., Box 1986, 201 Walton Bldg., Lincoln, Neb. (570)

Indiana

(NOTE: See also Chicago, Cincinnati, and Indianapolis Territories)

Mount Vernon, Ind., MT. VERNON D. I. Exec: Joseph Nickolick. (378)

Iowa

(NOTE: See also Des Moines and Omaha Territories)

Keokuk, Ia., SKYLARK D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (425)

Kentucky

(NOTE: See also Cincinnati, Indianapolis and Memphis Territories)

Kevil, Ky., PARK D. I., Route 1. Exec: Forrest O. Shelby, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis, Mo. (225)

Morganfield, Ky., DRIVE IN. Exec: James and Sam McElroy, O. P. Dyer, and Dawson C. Campbell, 320 W. Jefferson St., Louisville. (430)

Murray, Ky., 95 D. I. Exec: Enido Nucci. (500)

Paducah, Ky., AIRPORT D. I. Exec: Doby B. Stout, Box 471, Cairo, Ill. (400)

Paducah, Ky., PADUCAH D. I., Lone Oak Rd. Exec: Columbia Amuse Co., Arcade Th. Bldg. (500 and 100 Seats)

Paducah, Ky., STARLITE D. I., New Benton Rd. Exec: Lake Edwards. (381)

Missouri

(NOTE: See also Des Moines, Kansas City and Memphis Territories)

Affton, Mo., RONNIE'S D. I. (St. Louis), Baptist Ch. La. and Lindbergh Drive. Exec: Lester Kropp, Wehrenberg Ths., 2735 Cherokee St., St. Louis. (981)

Arcadia, Mo., KILLARNEY D. I. (Pilot Knob). Exec: William Busden, Pilot Knob. (262)

Ava, Mo., HIGHWAY 14 D. I. Exec: L. H. Pettit. (100)

Ava, Mo., PETTIT'S D. I. Exec: L. H. Pettit. (200)

Bridgeton, Mo., SKYLINE D. I. Exec: Ray Parker, 8741 Radley Court, Brentwood. (650 and 20 Seats)

Cape Girardeau, Mo., DRIVE IN. Exec: Howard Bates and Carl Miller. (750 Under Construction)

Centralia, Mo., BEBE D. I. (Springfield). Exec: E. Bebemeyer. (250)

Charleston, Mo., CHARLESTON D. I. Exec: D. B. Stout, Box 471, Cairo, Ill. (200)

Columbia, Mo., BROADWAY D. I., 1100 Block Broadway. Exec: Commonwealth Amuse. Co., 215 W. 18th, Kansas City. (400)

Columbia, Mo., PARKADE D. I. Exec: Herbert Jeans. (400)

DeSoto, Mo., SKYVIEW D. I. Exec: William A. Collins. (300 Under Construction)

Des Peres, Mo., MANCHESTER D. I. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and William Powell, Gem Th., St. Johns. (500)

Dexter, Mo., FAMILY D. I., P. O. Box 264. Exec: Miss V. Lawrence, 610 College, Apt. 1, Columbia. (488)

Doniphan, Mo., STADIUM D. I., 101 Young St. Exec: Mrs. Ethel Chilton. (138)

Farmington, Mo., CORRAL D. I. Exec: Edwards-Plumlee Ct., Ritz Th. (400)

Fredericktown, Mo., HI-Y D. I. Exec: L. A. Mercier, Mercier Th. (250)

Fulton, Mo., FULTON D. I. Exec: Don Fike. (386)

Garwood, Mo., 21 D. I. (Ellington). Exec: Harold Larkin and Claude Davis. (210)

Hannibal, Mo., SKY-HI D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (350)

Houston, Mo., SUNSET D. I. Exec: H. E. Lay. (350)

Illmo, Mo., CAPE D. I. (Cape Girardeau), U. S. 61, Illmo P. O. Exec: H. O. Bates. (500)

Jackson, Mo., SHERMAN'S JACKSON D. I. Exec: Mrs. William Sherman, Sherman Th., Bloomfield. (250)

Lebanon, Mo., MOONLITE D. I., Route 32. Exec: W. T. Ash. (250 and 100 Seats)

Lebanon, Mo., SKY-HI D. I. Exec: Earl Hargis. (200)

Malden, Mo., AUTOVUE D. I. Exec: G. D. Haskins and C. V. Harris. (250)

Marshfield, Mo., SKYLINE D. I. Exec: Lloyd E. Schmidt. (150)

Memphis, Mo., AIRWAY D. I. Exec: C. W. Locke, Time Th. Co. (288)

Mexico, Mo., LITTLE DIXIE D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (450)

Mountain Grove, Mo., 60 D. I. Exec: D. W. Davis, Jr. (300)

Paris, Mo., MAJOR D. I. Exec: Mrs. Edith Major. (200)

Perryville, Mo., HILLTOP D. I., Rt. 25. Exec: A. C. Mercier, Mercier Th. (285)

Pevely, Mo., 61 D. I. Exec: H. P. Hartstein, 1116 Watts, University City. (700)

Piedmont, Mo., PINE HILL D. I. Exec: A. B. Jefferis. (200)

Poplar Bluff, Mo., POPLAR BLUFF D. I., Rt. 67. Exec: Rodgers Ct., 230 Eighth St., Cairo, Ill. (580)

Potosi, Mo., STARLITE D. I. Exec: Harry Blount. (300)

Rolla, Mo., ROLLA D. I., U. S. No. 66. Exec: H. Blount, Plaza Th., Potosi. (400)

Saint Ann's Village, Mo., AIRWAY D. I. (Overland), 10900 St. Charles Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (1000)

Saint Ann's Village, Mo., ST. ANN D. I. (St. Louis), St. Charles Rock Rd. Exec: Edward Arthur, Funchon and Marco, 527 N. Grand, St. Louis. (1000)

Saint Charles, Mo., ST. CHARLES D. I. Exec: St. Charles Drive-In Th. Corp., Kaimann Booking Office, 4102a W. Florissant, St. Louis. (600)

St. Louis Co., Mo., NORTH D. I. (St. Charles), Hwy. 99 and St. Cyr Rd. Exec: Kaimann Booking Office, 4102a W. Florissant, St. Louis. (1000 and 150 Seats)

St. Louis Co., Mo., 66 PARK IN, Hwy. 66 and Sappington Rd. Exec: Lester Kropp, Wehrenberg Ths., 2735 Cherokee St., St. Louis. (792)

Salem, Mo., STARLITE D. I. Exec: P. Hamaker. (248)

Sikeston, Mo., DELTA D. I., Box 376. Exec: Miss G. Twitty, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis. (350)

Sikeston, Mo., SIKESTON D. I. Exec: Mrs. O. W. McCutchen, Ritz Th., Blytheville, Ark. (450)

Sullivan, Mo., GRANDE D. I., Hwy. 66. Exec: A. Schwartz. (300)

Union, Mo., SUNSET D. I. Exec: Commonwealth Amuse. Co., 215 W. 18th St., Kansas City, and L. J. Williams. (288)

Warrenton, Mo., MOTO VU D. I. Exec: W. T. Zimmerman, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis 3. (250)

Wayland, Mo., STARLITE D. I. (Kahoka), Hwy. 136. Exec: William Schearer. (100)

Waynesville, Mo., DRIVE IN. Exec: Commonwealth Amuse. Co., 215 W. 18th St., Kansas City. (280 Under Construction)

West Plains, Mo., 63 D. I. Exec: Dean W. Davis. (350)

West Quincy, Mo., QUINCY D. I. Exec: A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis 3. (500)

Willow Springs, Mo., WILLOW D. I. Exec: R. D. Fisher. (184)

SALT LAKE CITY TERRITORY

Colorado

(NOTE: See also Denver Territory)

Cortez, Colo., ARROYO D. I. Exec: Mr. and Mrs. Torenzio Gai. (300)

Idaho

(NOTE: See also Seattle Territory)

Blackfoot, Ida., MOTOR-VUE D. I. Exec: Albert Barrott. (490)

Boise, Ida., BOISE D. I., West of City, P. O. Box 2558. Exec: J. W. Naylor. (350)

Boise, Ida., BROADWAY D. I. Exec: J. W. Naylor, Boise Drive-In Th. (400)

Buhl, Ida., MOON-GLO D. I. Exec: C. C. Voeller. (280)

Burley, Ida., AL FRESCO D. I., 2 Mi. W. of Burley. Exec: I. H. Harris, Harris-Voeller Ct. (350)

Caldwell, Ida., MOTOR-VU D. I., P. O. Box 38. Exec: Frank Judd. (300)

Caldwell, Ida., TERRACE D. I. Exec: Virgil Odell, Box 428, Emmett. (300)

Emmett, Ida., EMMETT D. I. Exec: Virgil Odell, Box 428. (220)

Idaho Falls, Ida., MOTOR-VU D. I., Yellowstone Hwy. 191. Exec: J. H. Moran, Laurel, Mont. (500)

Idaho Falls, Ida., SKY-VU D. I. Exec: Ralph Prestwich. (450)

Jerome, Ida., JEROME AUTO D. I. Exec: H. H. Harris. (210)

Meridian, Ida., TEMPLE D. I. Exec: K. D. Krider. (350)

Montpelier, Ida., MOTOR-VU D. I. Exec: Russ Dauterman, 1295 2nd Ave., Salt Lake City 5, Utah. (300)

Nampa, Ida., AMITY D. I. Exec: D. R. Abbott and Lyman Grunder. (200)

Nampa, Ida., NAMPA-CALDWELL D. I. Exec: B. R. Botkin, Meridian. (300)

Osburn-Wallace, Ida., SILVER STAR D. I. (Formerly Kelton). Exec: Simons Amuse. Co., Wilma Bldg., Missoula, Mont. (300)

Payette, Ida., PAY-ONT D. I. Exec: Rex Voeller, Nyssa, Ore. (300)

Pocatello, Ida., STAR-LITE D. I. Exec: T. M. Morris, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (538)

Pocatello, Ida., SUNSET D. I. Exec: T. M. Morris, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (350)

Rexburg, Ida., TETON D. I. Exec: K. O. Lloyd, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (350)

Salmon, Ida., SUNSET D. I. Exec: William H. Walker. (200)

Twin Falls, Ida., MOTOR-VU D. I., Kimberly Rd., P. O. Box 728. Exec: Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (500)

Twin Falls, Ida., GRAND VU D. I. (Formerly Car-Ral). Exec: Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah, and Associate Amuse. (390)

Montana

Billings, Mont., CITY-VU D. I., 515 Avenue E. Exec: Steve Trenka. (500)

Billings, Mont., MOTOR-VU D. I. Exec: J. H. Moran, Laurel. (600)

Billings, Mont., SAGE D. I., Box 231 A, Route #2. Exec: Allen Klindt. (500)

Bozeman, Mont., STAR-LITE D. I. Exec: E. B. Pegram, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (350)

Bridger, Mont., RIMROCK D. I. Exec: K. D. Brown. (275)

Butte, Mont., BRIDGEWAY D. I. Exec: E. R. Munger, Box 771, Helena. (500)

Butte, Mont., CREST D. I. Exec: R. F. Wilmert, 2201 Ottowa St. (300)

Butte, Mont., MOTOR-VU D. I. Exec: R. F. Wilmert, 2201 Ottowa St. (500)

Columbia Falls, Mont., DRIVE IN. Exec: E. A. Massman and Walter Thompson. (200)

Conrad, Mont., STAR D. I., Hwy. 91. Exec: Ray E. Yeager. (300)

Cut Bank, Mont., RANCH AUTO D. I. Exec: Tom Grady, Shelby. (210)

Glasgow, Mont., WEST D. I. Exec: E. H. Davison. (350)

Glendive, Mont., SKYLARK D. I. Exec: Lewis Moore, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (300)

Glendive, Mont., STAR-LITE D. I., P. O. Box 320. Exec: Bob and Bill Johnson. (250)

Great Falls, Mont., FALLS MOTOR-VU D. I. Exec: Elmer Jackson. (500)

Great Falls, Mont., TWILITE D. I. Exec: Twilite Ths., George Buzzas, and L. A. Donohue. (500)

Hamilton, Mont., STARLITE D. I. Exec: Floyd Bailey. (225)

Hardin, Mont., SKY-VU D. I. Exec: Conrad Seader. (250)

Havre, Mont., SUNSET D. I. Exec: Emil Don Tigney and Clarence Golder. (300)

Helena, Mont., SKY-HI D. I. Exec: Ralph A. Hahn, and A. M. Jolley, 206 Marwood Dr., Salt Lake City, Utah. (500)

Helena, Mont., SUNSET D. I. Exec: E. R. Munger, Box 771. (500)

Kalispell, Mont., SUNDOWN D. I. Exec: Carl Anderson. (250)

Lewiston, Mont., WESTERNAIRE D. I., P. O. Box 211. Exec: Frank Machler. (200)

Livingston, Mont., TWILIGHT D. I., 310 E. Park. Exec: Ed Boehm. (400)

Miles City, Mont., SUNSET D. I. Exec: Jack Holmes. (250)

Missoula, Mont., MOUNTAIN VU D. I. Exec: E. K. Taylor, 112 Mary Ave. (400)

Missoula, Mont., STATE D. I. #9 Hammond Arcade. Exec: William Flowers. (400)

Roundup, Mont., FORTRESS D. I., Hwy. 6. Exec: Lawrence Sealey and Harry Kowalczyk. (100)

Scobey, Mont., RIV-R-VU D. I. Exec: C. H. Halverson and Stanton Danelson. (200)

Sidney, Mont., MOTOR-VU D. I. Exec: Jack Suckstorff. (280)

Terry, Mont., PRAIRIE D. I. Exec: H. B. Lee. (200)

Whitefish, Mont., BAY POINT D. I. Exec: Ed McKenzie. (225)

Wolf Point, Mont., SUNDOWN D. I. Exec: C. J. Stevenson. (250)

Utah

American Fork, U., STARLITE D. I. Exec: Spencer Burkinshaw, Midvale. (400)

Bountiful, U., MOTOR-VIEW D. I., Hwy. 91. Exec: J. N. Bills. (580)

Brigham City, U., AUTO-VU D. I. Exec: L. D. Baird. (330)

Cedar City, U., HYLAND D. I. Exec: Glen Yergensen. (250)

Dragerton, U., STARLITE D. I. Exec: Bernard W. Cline and Philip Turner. (250)

Layton, U., DAVIS D. I., P. O. Box 247. Exec: John Bugger. (400)

Layton, U., LAYTON D. I. Exec: Hawk Th. Ct., 260 E. 1st So., Salt Lake City. (300)

Logan, U., CACHE D. I., P. O. Box 476. Exec: Harris-Voeller Ths., Burley, Ida. (350)

Logan, U., LOGAN D. I., Hwy. 91, P. O. Box 476. Exec: Harris-Voeller Ths., Burley, Ida. (350)

Midvale, U., UTE D. I. Exec: Horace and Spencer Burkinshaw. (580)

Ogden, U., MT. OGDEN D. I., 3700 Wall Ave. Exec: Stephens Bros., 1220 Binford St. (500)

Ogden, U., STAR-LITE D. I., 1876 Washington Blvd. Exec: Cliff Peterson. (350)

Orem, U., GENEVA D. I., Hwy. 91. Exec: Ralph Trathen, Consolidated Ths., 260 E. 1st So., Salt Lake City. (624)

Orem, U., TIMPANOGOS CINEMOTOR D. I. Exec: V. A. Gilhool, 140 S. 2nd East, Salt Lake City. (500)

Price, U., SUNSET D. I. Exec: Billy R. Webb. (280)

Provo, U., PIONEER MOTOR VU D. I., 1255 S. Springfield Rd. Exec: Marvin R. Cox, and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City. (500)

Roy, U., RIVERDALE D. I. Exec: R. Tulles. (554)

Riverdale, U., WEBER MOTOR VU D. I., Rt. 4. Exec: Associated Amuse. Co., and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City. (785)

Saint George, U., DIXIE D. I. Exec: R. M. Reber. (240)

Salt Lake City, U., AUTORIUM D. I., 2nd West and 21st So. Exec: Ralph Trathen, Consolidated Ths., 260 E. 1st So. (655)

Salt Lake City, U., HYLAND D. I., 3670 Highland Dr. Exec: Ralph Trathen, Consolidated Ths., 260 E. 1st So. (845)

Salt Lake City, U., MOTOR-VU D. I., 3500 E. 33rd So. Exec: Erick Peterson (700)

Salt Lake City, U., OAK HILLS D. I. Exec: D. K. Edwards, Joseph Lawrence Ths., 310 Utah Oil Bldg. (600)

Salt Lake City, U., PARK-VUE D. I. Exec: Ellis Everell, 3821 S. 11th East. (750)

Salt Lake City, U., REDWOOD D. I., 260 E. First So. Exec: Ralph Trathen, Consolidated Ths., 260 E. 1st. So. (750)

Salt Lake City, U., WOODLAND D. I. Exec: E. N. Woodland, 4005 S. 7th East. (500)

Springville, U., ART CITY CINEMOTOR D. I. Exec: V. A. Gilhool, 140 S. 2nd E., Salt Lake City. (500)

Tooele, U., MOTOR-VU D. I. Exec: S. L. Gillette, 251 E. 2nd So., Salt Lake City. (278)

Vernal, U., STARLIGHT D. I. Exec: Shiner Brothers. (300)

Wyoming

(NOTE: See also Denver Territory)

Evanston, Wyo., RIVERSIDE MOTOR-VU D. I. Exec: Russ Dauterman, 1295 2nd Ave., Salt Lake City, U. (200)

SAN FRANCISCO TERRITORY

California

(NOTE: See also Los Angeles Territory)

Alameda, Cal., ALAMEDA D. I., 2145 Webster St. Exec: Nasser Bros., 25 Taylor St., San Francisco. (860)

Alameda, Cal., ISLAND AUTO MOVIES, 791 Thau Way. Exec: J. and W. Gannon and Gordon Allen, 1312 Tennyson Rd., Hayward. (880)

Alton, Cal., HUMBOLDT D. I. Exec: Walter Bell, 1497 Hoover, Eureka. (530)

Antioch, Cal., BRIDGE HEAD D. I. Exec: Stamm Ths., Inc., El Campanil Th., 602 2nd St. (450)

Armona, Cal., KINGS D. I. Exec: W. Paddock and J. E. Meisner, P. O. Box 655, Hanford. (300)

Auburn, Cal., AUBURN D. I., 1139 High St. Exec: Ed Rowden Th. Serv., 276 Golden Gate, San Francisco. (468)

Belmont, Cal., STARLITE D. I., 300 Harbor Blvd. Exec: David Bolton, 168 Golden Gate, San Francisco. (650)

Boulder Creek, Cal., STARVIEW D. I., Big Basin Hwy. Exec: John Forde, and General Theatrical Co., 25 Taylor St., San Francisco. (350)

Carmichael, Cal., WESTERNER D. I. Exec: Robert Gingerich. (400)

Ceres, Cal., CERES D. I., P. O. Box 35. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (334)

Chico, Cal., STARLITE D. I., P. O. Box 552. Exec: T. and D., Jr. Ents., Inc., 172 Golden Gate, San Francisco. (600)

Colma, Cal., EL RANCHO D. I. (San Francisco), RR #1, Box 288D. Exec: Juniper-Serra Th., Inc., Redwood-Lippert Ths., 1069 Market, San Francisco. (850)

Concord, Cal., CONTRA COSTA MOTOR IN (Sherman Field), 2040 Contra Costa Hwy. Exec: Concord Th. Co., Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Coalinga, Cal., COALINGA D. I., Box 141. Exec: Harris and Coughbert, and Bowles and Hurley, 723 Griffith Way, Fresno. (375)

Cotati, Cal., REDWOOD D. I., P. O. Box 206. Exec: Redwood Drive-In, Inc. and Guy W. Meek. (552)

Crescent City, Cal., OCEAN D. I., P. O. Box 202, Medford, Ore. Exec: Jacob A. Lench, Willinm A. McCune, and Richard F. Miller, P. O. Box 696. (440)

Delano, Cal., DEL-MAC D. I., Box 905. Exec: Panero Th. Co., Room 700-A, 25 Taylor St., San Francisco. (380)

Del Paso Heights, Cal., BELL D. I. (Sacramento), 1429 Bell Ave. Exec: J. H. Burnhouse and F. H. Enwald, Web Amuse. Corp. (650)

Dinuba, Cal., MIDWAY D. I. Exec: Unicorn Ths., % Robert Clark Agy., 166 Golden Gate, San Francisco. (490)

Dos Palos, Cal., DOS PALOS D. I., P. O. Box 595. Exec: Regns-Hales, Inc., and George Archibald, Arch Buying and Booking Serv., 341 Golden Gate, San Francisco. (361)

El Cerrito, Cal., EL CERRITO MOTOR MOVIES, 6600 Fairmont. Exec: El Cerrito Drive-In Ths., Inc., Blumenfeld Ths., 70 Eddy, San Francisco. (900)

Eureka, Cal., BEL-AIR D. I. Exec: Walter Bell, 1497 Hoover. (500)

Eureka, Cal., MIDWAY D. I., % State Th. Exec: Redwood Ths., Inc., Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Fairfield, Cal., SOLANO D. I., P. O. Box 357. Exec: Homer-Tegtmeier, P. O. Box 848, San Francisco. (404)

Firebaugh, Cal., FIREBAUGH D. I., P. O. Box 366. Exec: Bowles and Hurley, 723 Griffith Way, Fresno. (300)

Fresno, Cal., MOON-GLO D. I., Rt. 13, Box 786, 2041 W. Dakota. Exec: R. and K. Thompson, Carol Carlton, and Leslie Pancake. (800)

Fresno, Cal., STARLITE D. I., % Ed Stokes, 2736 Divisadero. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (1250)

Fresno, Cal., SUNSET D. I., % Ed Stokes, 2736 Divisadero. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Garberville, Cal., GARBERVILLE D. I., % Garberville Th. Exec: B. B. Byard. (477)

Gilroy, Cal., HECKER PASS D. I., P. O. Box 180. Exec: Hecker Pass Drive-In Co., Inc., and General Theatrical Co., 25 Taylor St., San Francisco. (490)

Hayward, Cal., MOTOR MOVIES. Exec: Allen and Heller, and Gordon Allen, 1312 Tennyson Rd. (600)

Hollister, Cal., MOONLITE D. I., Rt. 1, Box 64. Exec: Hans Severinsm, and William Greenbaum, Film Booking Offices of Northern Cal., 988 Market, San Francisco. (460)

Keyes, Cal., STARLITE D. I. Exec: Stanislaus Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (600)

Lodi, Cal., TOKAY D. I., Box 187. Exec: Sacramento Amuse. and Development Co., and Ed Rowden Th. Serv., 276 Golden Gate, San Francisco (550)

Los Molinos, Cal., SUNDOWN D. I. Exec: Larry Tyler, and George Archibald, Arch Buying and Booking Serv., 341 Golden Gate, San Francisco. (200)

Madera, Cal., EL RIO D. I. Exec: H. Preciado, % Rex Th. (384)

Malaga, Cal., MOTOR-IN (Fresno), % Ed Stokes, 2736 Divisadero, Fresno. Exec: Fresno Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (915)

Mendota, Cal., MARY'S D. I. Exec: Bruno Vecchinarelli, Frank James, and William Greenbaum, Film Booking Offices of Northern Cal., 988 Market, San Francisco. (400)

Merced, Cal., STARLITE D. I., Gerard Ave. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (680)

Merced, Cal., TIOGA D. I., Box 1472, Exec: Sacramento Amuse. and Development Co., and Ed Rowden Th. Serv., 276 Golden Gate, San Francisco. (480)

Monterey, Cal., PARK D. I., Encino and Fairground. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (466)

Mountain View, Cal., MONTE VISTA D. I., El Camino and Grant Rd. Exec: Sunnymount Ths., and Blumenfeld Ths., 70 Eddy St., San Francisco. (700)

Napa, Cal., KAYVON D. I., P. O. Box 597. Exec: Blumenfeld Ths., 70 Eddy St., San Francisco. (400)

Oakland, Cal., AIRPORT AUTO MOVIES, 131 Jones Ave. Exec: Frank Enea Lucido, 361 Lighthouse Ave., Monterey. (900)

Oroville, Cal., MESA D. I., P. O. Box 1310. Exec: N. C. Post. (460)

Palo Alto, Cal., PALO ALTO D. I., Bayshore Hwy. and Amarillo Rd. Exec: Spin Amuse. Co., Inc., and George Archibald, Arch Buying and Booking Serv., 341 Golden Gate, San Francisco. (550)

Paso Robles, Cal., OAKS D. I., Box 116. Exec: Al Stanford, P. O. Box 116. (325)

Pittsburg, Cal., AUTO MOVIES, P. O. Box 1271. Exec: Frank Enea Lucido, 361 Lighthouse Ave., Monterey. (550)

Placerville, Cal., SE-RANCHO D. I. Exec: L. and C. Freitas, V. Banta, and William Greenbaum, Film Booking Offices of Northern Cal., 988 Market St., San Francisco. (450)

Pleasanton, Cal., VALLEY D. I., Box 231, Livermore, Exec: Westside Ths., and William Greenbaum, Film Booking Offices of Northern Cal., 988 Market St., San Francisco. (364)

Porterville, Cal., PORTERVILLE D. I., Box 990. Exec: Spin Amuse. Co., and George Archibald, Arch Buying and Booking Serv., 341 Golden Gate, San Francisco. (500)

Red Bluff, Cal., RED BLUFF AUTO MOVIE. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (350)

Redding, Cal., STARLIGHT D. I. Exec: United Th., Inc., and Espy and Perkins. (450)

Riverdale, Cal., HILL'S D. I., P. O. Box 106. Exec: Dr. Gerald Hill, and Howard Hill. (326)

Roseville, Cal., CITRUS HEIGHTS D. I., P. O. Box 71. Exec: Gen. Theatrical Co., 25 Taylor St., San Francisco. (550)

Sacramento, Cal., FRUITRIDGE D. I., 5201 Fruitridge Rd. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (848)

Sacramento, Cal., SKYVIEW D. I. Exec: Marvin Martines. (618)

Sacramento, Cal., STARLITE D. I. (N. Sacramento), Rt. 7, Box 900. Exec: Freeway Th. Co., Inc., and Blumenfeld Ths., 70 Eddy, San Francisco. (920)

Salida, Cal., DRIVE IN (Formerly Modesto), P. O. Box 1124. Exec: Stanislaus Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (570)

Salinas, Cal., AUTO MOVIES D. I., East Market and Simas. Exec: Frank Enea Lucido, 361 Lighthouse Ave., Monterey. (498)

Salinas, Cal., SKYVIEW D. I., Sanborn Rd. Exec: Antone and Marvin Martines. (618)

San Francisco, Cal., GENEVA D. I., 2150 Geneva Ave. Exec: Bay City Amuse., Inc. and George and Robert Peterson. (800)

San Francisco, Cal., MISSION D. I., % Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. Exec: Bob Benton. (1000)

San Francisco, Cal., TERRACE D. I. Exec: Stanislaus Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market. (500)

San Jose 27, Cal., ALUM ROCK D. I., 1969 Alum Rock Ave. Exec: Andrew Sasso, and General Theatrical Co., 25 Taylor St., San Francisco. (500)

San Jose, Cal., EL RANCHO D. I., Alma and Almaden. Exec: P. R. Catalana and A. Yarmie. (800)

San Jose, Cal., MOONLIGHT D. I. (Santa Clara), El Camino Real and Bowers Ave. Exec: United Cal. Ths., Inc., 172 Golden Gate Ave., San Francisco. (1000)

San Jose, Cal., SAN JOSE D. I., Rt. 2, Box 479-B. Exec: Gannon Bros., and Gordon Allen, 1312 Tennyson Rd., Hayward. (500)

San Jose, Cal., SHAMROCK D. I., Box 26. Exec: Robert J. Wilson, and General Theatrical Co., 25 Taylor St., San Francisco. (700)

San Leandro, Cal., OAKLAND D. I., 15065 E. 14th St. Exec: Eden Th. Co., Inc., and David Bolton, 168 Golden Gate, San Francisco. (450)

San Leandro, Cal., STADIUM AUTO MOVIE, 15065 E. 14th St. Exec: Eden Th. Co., Inc., and David Bolton, 168 Golden Gate, San Francisco. (730)

San Mateo, Cal., STUDIO D. I. Exec: Peninsular Ave. Th. Co., Inc., % G. B. Archibald, Arch Buying and Booking Serv., 341 Golden Gate Ave., San Francisco. (500 and 350 Seats)

San Pablo, Cal., RANCHO D. I., 1220 Connecticut. Exec: Richmond Drive-In, Inc., and Guy W. Meek. (560)

San Pablo, Cal., SAN PABLO AUTO MOVIES. Exec: United Cal. Ths., Inc., 172 Golden Gate Ave., San Francisco. (800)

San Rafael, Cal., MARIN MOTOR MOVIES, 1000 Francisco Blvd. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (504)

Santa Cruz, Cal., ENCINA D. I. Exec: California Empire Th., Inc., and David Bolton, 168 Golden Gate, San Francisco. (750)

San Rosa, Cal., VILLAGE D. I. Exec: Redwood Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (699)

Shafter, Cal., DEL-KERN D. I., Box 1365. Exec: Panero Th. Co., Rm. 700-A, 25 Taylor, San Francisco. (350)

State Line, Cal., TAHOE D. I., Hwy. 50. Exec: William I. Garren, Albany Th., Albany. (250)

Stockton, Cal., HWY. 99 E D. I., R.R. 2, Box 1283. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (600)

Stockton, Cal., MOTOR MOVIES, 546 E. Main. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (887)

Susanville, Cal., LASSEN AUTO MOVIE (Johnsonville). Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (350)

Tracy, Cal., SHOWBOAT D. I. Exec: Principal Ths., 1640 W. Washington Blvd., Los Angeles. (500)

Turlock, Cal., LUCKY D. I., 601 W. Main. Exec: Clayton Gran, and George Archibald, Arch Buying and Booking Serv., 341 Golden Gate Ave., San Francisco. (398)

Ukiah, Cal., STATE D. I. Exec: Redwood Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (490)

Vallejo, Cal., CRESCENT D. I., County Rd., Box 266. Exec: Guy W. Meek. (550)

Vallejo, Cal., VALLEJO AUTO MOVIES. Exec: Ray Syufy, Rita Th. (710)

Visalia, Cal., SEQUOIA AUTO THEATRE, P. O. Box 1184. Exec: Westland Ths., 291 Golden Gate, San Francisco. (480)

Visalia, Cal., DRIVE IN (Mooney Park), R.R. #6, Box 403. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (450)

Watsonville, Cal., STARLITE D. I., P. O. Box 781. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (637)

West Sacramento, Cal., EL RANCHO D. I., 2000 W. Capitnl Ave., Rt. 1, Box 1500, Sacramento. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (650)

Williams, Cal., SUNDOWN D. I. Exec: Ned Steele, Jr. (300)

Woodland, Cal., SUNSET D. I. Exec: Peter Garratte, Yolo Th., 402 Main St. (300)

Yreka, Cal., YREKA D. I. Exec: Oregon-California Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (402)

Yuba City, Cal., AUTO-SEE D. I. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Nevada

(NOTE: See also Los Angeles Territory)

Carson City, Nev., SKYVIEW D. I. Exec: George Gessler and Ceil Perrin. (300)

Reno, Nev., MIDAY D. I. Exec: Midway Ents., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal., and Floyd Bernard. (350)

Sparks, Nev., EL RANCHO D. I. (Reno), Exec: William David, 988 Market, San Francisco, Cal., and Blumenfeld Ths., 70 Eddy St., San Francisco, Cal. (580)

Yerington, Nev., DRIVE IN, % Yerington Th. Exec: Peter and Gina Perry. ( )

Oregon

(NOTE: See also Portland Territory)

Klamath Falls, Ore., SHASTA D. I., % Pelican Th. Exec: Oregon-California Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco, Cal. (500)

Hawaii

Honolulu, T. H., DRIVE IN, P. O. Box 3737. Exec: Consolidated Amuse. Co., 25 Taylor, San Francisco, Cal., and Fred D. Williams. (760)

SEATTLE TERRITORY

Idaho

(NOTE: See also Salt Lake City Territory)

Coeur D'Alene, Ida., COEUR D'ALENE D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (350)

Coeur D'Alene, Ida., SHOWBOAT CRUISE-IN D. I. Exec: Orrin Lee, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (310)

Coeur D'Alene, Ida., STARLIGHT DUDE RANCH D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (300)

Kamiah, Ida., B AND K STARLIGHT D. I. Exec: Miner Bethman. (200)

Lewiston, Ida., AUTO-VUE D. I., Highway 99. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (450)

Moscow, Ida., AUTO D. I., P. O. Box 304. Exec: Ed Metzgar. (465)

Orchards, Ida., AUTO D. I. Exec: Harry Wall, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (400)

Orifino, Ida., RIVERVIEW D. I. Exec: D. Snyder and C. Frensdorf. (250)

Sandpoint, Ida., MOTOR MOVIE D. I. Exec: Frank C. Weskil. (360)

Smelterville, Ida., PAT'S AUTO VU D. I. Exec: Pat Metzgar, and Robert Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (416)

Washington

(NOTE: See also Seattle Territory)

Aberdeen, Wash., HARBOR D. I. (Montesano), Route 1. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (380)

Alderwood Manor, Wash., SNO-KING D. I. Exec: Cosmo J. Rocky, 4534 14th So., Seattle. (500)

Bellingham, Wash., MOTOR-VUE D. I., Highway 99. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (450)

Centralia, Wash., TWIN CITY D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (725)

Chewelah, Wash., CHIEF D. I., Route 395. Exec: Max Hadfield. (400)

Clarkston, Wash., CLARKSTON AUTO D. I. Exec: Liberty Th. Co., and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (350)

Colville, Wash., AUTOVUE D. I. Exec: Max Hadfield. (300)

Dayton, Wash., SUNSET D. I. Exec: Lowell Spiers. (250)

Deer Park, Wash., AUTO-VIEW D. I. Exec: LuElla Mackey. (250)

Eastsound, Wash., ORCAS D. I. Exec: E. M. Snow, Lincoln Th., Mt. Vernon. (50)

Ellensburg, Wash., ELLEN D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (500)

Everett, Wash., EVERETT MOTOR MOVIE. Exec: George DeWaide, B. F. Shearer Co., 2318 2nd Ave., Seattle (725)

Everett, Wash., SKY-VUE D. I. Exec: Edward J. Bowling. (250)

Factoria, Wash., SUNSET D. I. (Seattle). Exec: Fred Danz, Sterling Ths., Palomar Th. Bldg., Seattle. (800)

Fife, Wash., FIFE D. I., Rt. 2, Box 4, Tacoma. Exec: William Forman. (450)

Kennewick, Wash., HI-LANE D. I., Highway 410. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (600)

Kennewick, Wash., PARK IN D. I., Highway 410. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (425)

Midway, Wash., MIDWAY D. I., Highway 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Millwood, Wash., MOTOR-IN, Highway 53. Exec: Keith Beckwith, P. O. Box 366, North Bend. (750)

Moses Lake, Wash., BASIN D. I. Exec: John Lee. (284)

Mount Vernon, Wash., SKAGIT D. I. Exec: Ed Snow, Lincoln Th. (482)

Newport, Wash., NEWPORT D. I. Exec: J. H. Ownbey. (200)

Olympia, Wash., LACEY D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (500)

Olympia, Wash., SUNSET D. I., Highway 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (480)

Omak, Wash., VALLEY D. I., Highway 97. Exec: A. J. Varreiman, P. O. Box 242, Pateros. (200)

Othello, Wash., SUNSET D. I. Exec: C. Finkbeiner. (115)

Pasco, Wash., RIVER-VUE D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (600)

Port Orchard, Wash., RODEO D. I., Route 4. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (600)

Prosser, Wash., PROSSER D. I. Exec: Jack Pearl, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (300)

Pullman, Wash., BIG SKY MOTOR MOVIE. Exec: LaVance Weskil, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (450)

Pullman, Wash., PULLMAN D. I., Box 343. Exec: R. Tate, J. M. Hutchinson, and Buck Smith. (300)

Richland, Wash., SKY-LINE D. I. Exec: Charles E. Bishop, A. V. Shanks, and F. L. Poirer. (600)

Richland, Wash., STAR-VUE D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (500)

Seattle, Wash., AURORA D. I., Hwy. 99, 13500 Aurora Ave. Exec: Lou Pressler, 1016 Securities Bldg. (500)

Seattle, Wash., DuWAMISH MOTOR D. I. 112th So. and Hwy. 99. Exec: Lou Pressler, 1016 Securities Bldg. (700)

Seattle, Wash., KENMORE D. I. (Kenmore). Exec: Lou Pressler, 1016 Securities Bldg. (750)

Soap Lake, Wash., PARK-IN D. I. Exec: John Lee. (250)

Spokane, Wash., AUTO-VUE D. I., Hwy. 195, 112th So. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (400)

Spokane, Wash., EAST SPRAGUE D. I., Sprague Ave., Box 2188. Exec: Joe Rosenfield, W. 7141/2 Riverside. (600)

Spokane, Wash., ORCHARD D. I. Exec: Sunset Ths., Inc. (600)

Spokane, Wash., WEST END D. I. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Spokane, Wash., "Y" D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (410)

Sunnyside, Wash., STAR-LITE D. I. Exec: Lloyd Honey. (400)

Tacoma, Wash., AUTO-VUE D. I., Hwy. 99, McChord Field. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (600)

Tacoma, Wash., STAR-LITE D. I., Highway 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Toppenish, Wash., TOP-HI D. I., P. O. Box 352. Exec: E. A. Darby, Naches Th., Naches. (300)

Walla Walla, Wash., SKY-VUE D. I., Highway 410. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398. (400)

Wenatchee, Wash., AUTO-VUE D. I., Hwy. 10, Box 57. Exec: Pat Tappan, Greime and Fasken Ths., Vitaphone Th. Bldg. (250)

Wenatchee, Wash., VUE-DALE D. I. Exec: Pat Tappan, Greime and Fasken Ths., Vitaphone Th. Bldg. (500)

Yakima, Wash., TOWER D. I. (Union Gap), Highway 97. Exec: Frederick Mercy, Jr., First Natl. Ths., P. O. Box 1557. (425)

WASHINGTON, D. C., TERRITORY

Delaware

(NOTE: See also Philadelphia Territory)

Delmar, Del., DELMAR D. I., R. D. #2, Rt. 13. Exec: Rube Shore, 1632 Central Parkway, Cincinnati, Ohio. (750)

Maryland

Baltimore, Md., ELKRIDGE D. I. (Elkridge), 6200 Washington Blvd. Exec: O. J. Hickey. (600)

Baltimore, Md., GEN. PULASKI D. I. (Whitemarsh), Route 40. Exec: Milton Schwaber. (700)

Baltimore, Md., NORTH POINT D. I., N. Point and Battle Grove Rds. Exec: Durkee Ct., Arcade Th. Bldg. (600)

Beltsville, Md., BELTSVILLE D. I., Route 1. Exec: Sidney Lust Ct., 711 14th St. N.W., Washington, D. C. (625)

Cambridge, Md., SUPER 50 D. I., Exec: Harold DeGraw, Peninsula Amusements. (350)

Chestertown, Md., CHESTERTOWN D. I. Exec: B. C. Hart. (150)

Cumberland, Md., CRYSTAL D. I. Exec: Edward D. Crowden. (300)

Cumberland, Md., POTOMAC D. I., Rt. 53, P. O. Box 176, Exec: Baker and Sutherland. (450)

Cumberland, Md., SUPER 40 D. I., Box 1087. Exec: Paul Owen. (450)

Deer Park, Md., PARADISE D. I., Route 2. Exec: A. Kisner. (175)

Elkton, Md., ELKTON D. I., R. D. #2, Rt. 40. Exec: Rube Shor, 1632 Central Parkway, Cincinnati, Ohio. (450)

Frederick, Md., BRADDOCK D. I. Exec: H. C. Bondurant. (300)

Frederick, Md., FAMILY D. I. Exec: E. F. Lane. (150)

Glen Burnie, Md., GOV. RITCHIE D. I., Rt. 301 and Gov. Ritchie Hwy. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (500)

Hancock, Md., HANCOCK D. I., R.F.D. #2. Exec: I. W. Linebaugh. (250)

Lexington Park, Md., 235 D. I. (Formerly Towne). Exec: J. Fruchtman. (300)

McCoole, Md., ALLEGANY D. I., 40 S. Main St., Petersburg, W. Va. Exec: Eston and Albert Brill. (200)

McCoole, Md., HIROCK D. I. Exec: J. E. Whetsell. (150)

Mount Lena, Md., HIWAY D. I. (Hagerstown), Dual Hwy., P. O. Box 247. Exec: D. Weinberg. (500)

*North Branch, Md., FAMILY D. I. Exec: E. Mueller. (16mm. Film)

Taneytown, Md., MONOCACY D. I. Exec: John G. Miller. (337)

Williamsport, Md., HAGER D. I., Route 11. Exec: Fred Ungar. (350)

Virginia

Abingdon, Va., MOONLIGHT D. I., Route 2. Exec: T. D. Field. (400)

Alexandria, Va., MT. VERNON D. I., Route 1. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (750)

Alexandria, Va., SUNSET D. I., Leesburg Pike, Rt. 7. Exec: Harry Wilson, 6500 Carlyn Ct., Falls Church. (300)

Alta Vista, Va., ALTA D. I., U. S. Hwy. 29. Exec. A. Donahue. (200)

Amelia, Va., DRIVE-IN. Exec: Tom Golden. (100)

Appomattox, Va., COSWELL D. I. Exec: John Caldwell. (100)

Arlington, Va., AIRPORT D. I., 2001 Jefferson Davis Hwy. Exec: Paul J. Foley. (1000)

Austinville, Va., AUSTINVILLE D. I. Exec: G. W. McGee. (200)

*Aylett, Va., AYLETT D. I. Exec: R. S. Flippo. (16mm. Film)

Bassett, Va., FAMILY D. I., Bassett Forks. Exec: Cecil Ward. (300)

Bedford, Va., BEDFORD D. I. (Formerly Center). Exec: D. Weinberg. (175)

Big Stone Gap, Va., HIWAY D. I. Exec: E. B. Mullins. (200)

Blackstone, Va., GROVE D. I. Exec: Z. T. Purdue. (275)

Blackwood, Va., CENTRAL D. I. Exec: H. Kiser and R. Lodge. (150)

Blue Grass, Va., HIGHLAND D. I. Exec: Rexrote and Puffenberger. (150)

Buchanan, Va., MT. JOY D. I. Exec: Jack Jackson. (250)

Buena Vista, Va., MT. VIEW D. I., P. O. Box 463. Exec: Sebert Hull, Hull and Phillips. (206)

Carrsville, Va., CARRSVILLE D. I. Exec: H. J. Lyon. (300)

Charlottesville, Va., RIDGE D. I., Rt. 29. Exec: Neighborhood Ths., Richmond. (548)

Chase City, Va., CHASE CITY D. I. Exec: R. E. Green. (200)

Chatham, Va., STARLITE D. I. Exec: Everett Haley. (250)

Christiansburg, Va., MIDWAY D. I. (Formerly Montgomery). Exec: J. D. Conklin, Radford. (200)

Clarksville, Va., CLARKSVILLE D. I. Exec: O. P. Chandler, Jr. (200)

Clarkton, Va., TRI COUNTY D. I. Exec: C. F. Branscome. (150)

Clintwood, Va., STARLITE D. I. Exec: W. C. Southern. (184)

Coeburn, Va., LONESOME PINE D. I. (Norton). Exec: P. C. Datson. (175)

*Colonial Beach, Va., BEACH D. I. Exec: W. P. Worman, T. E. Campbell and E. Toft. (16mm. Film)

Copper Hill, Va., VEST D. I. Exec: S. G. Vest. (150)

Covington, Va., CALLAGHAN D. I., Route 2. Exec: E. L. Lockhart. (200)

Covington, Va., HIWAY D. I. Exec: Harry W. Robertson. (300)

Craddock, Va., SUPER 17 D. I., P. O. Box 2068. Exec: W. R. Saunders. (500)

Crozet, Va., CROZET D. I. Exec: R. H. Hurt. (141)

Culpepper, Va., PITTS D. I. Exec: Benj. Pitts Ct., Fredericksburg. (200)

Danville, Va., CRESCENT D. I., P. O. Box 759. Exec: T. A. Little. (500)

Danville, Va., 360 D. I. Exec: L. W. Lea. (450)

Dublin, Va., PULASKI D. I., Route 11. Exec: Earl B. Faw. (175)

East Stone Gap, Va., POWELL D. I. Exec: M. K. Murphy. (280)

Elk Creek, Va., ELK CREEK D. I. Exec: B. A. Rhudy. (125)

Elkton, Va., BLUE RIDGE D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (150)

Elkton, Va., CAVALIER D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (150)

Emporia, Va., EMPORIA D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (178)

Farmville, Va., FARMVILLE D. I., Rt. 15. Exec: Neighborhood Ths., Richmond. (400)

Floyd, Va., FLOYD WILLIS D. I. (Formerly Pine Tavern). Exec: L. Branscome. (150)

Fredericksburg, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (546)

Fries, Va., HESTERS D. I. Exec: W. H. Hester. (225)

Front Royal, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (250)

Galax, Va., AIRPORT D. I., Box 27. Exec: R. F. Jones. (200)

Galax, Va., MIDWAY D. I., Route 58. Exec: C. W. Curtis. (300)

Galax, Va., STAR D. I. Exec: C. W. Curtis. (300)

Gate City, Va., SUNDOWN D. I., Gate City Hwy., Rt. 6. Exec: Sundown Th. (225)

Gate City, Va., TAYLOR D. I. Exec: Malcom Taylor. (250)

Gordonsville, Va., GORDONSVILLE D. I. Exec: E. L. Ornduff. (100)

Hampton, Va., LUST D. I. (Hilton Village), P. O. Box 143. Exec: Sidney Lust Ct., 711 14th St., N. W., Washington, D. C. (760)

Hanover Court House, Va., HANOVER D. I. Exec: C. M. Reese. (80)

Harrisonburg, Va., HARRISONBURG D. I., Box 685. Exec: R. L. Bean. (300)

Harrisonburg, Va., ROTH D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (300)

Hillsville, Va., HILLSVILLE D. I. Exec: M. P. Newman. (253)

Kenbridge, Va., K AND T D. I. Exec: Kendig and Tanner. (200)

Keswick, Va., LOUIS' D. I. Exec: S. L. Broiffitt. (75)

Keysville, Va., KEYSVILLE D. I. Exec: W. L. Torytiess. (150)

Kilmarnock, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (225)

Lawrenceville, Va., LAWRENCEVILLE D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (150)

Lexington, Va., LEE D. I. Exec: R. Perdue. (200)

Louisa, Va., DICKS D. I., R.F.D. #2. Exec: R. G. Robertson. (100)

Louisa, Va., TALLEY HO D. I. Exec: H. C. Talley. (200)

Luray, Va., PAGE D. I. Exec: D. F. Aleshire. (250)

Lynchburg, Va. (Madison Heights), AMHERST D. I., Rt. 3, Box 215A. Exec: Neighborhood Ths., Richmond. (495)

Lynchburg, Va., HARVEY'S D. I. Exec: R. L. White. (500)

Manassas, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (200)

Marion, Va., SKYVIEW D. I., P. O. Box 603. Exec: H. C. Chitwood. (280)

Martinsville, Va., CASTLE D. I. Exec: Mrs. J. C. Carper. (500)

Martinsville, Va., FRIENDLY D. I. Exec: Cecil Ward. (300)

Martinsville, Va., MARTINSVILLE D. I., Hwy. 220, P. O. Box 788. Exec: W A. Davis, F. B. Davis, and S. B. Terry. (300)

New Canton, Va., ARVONIA D. I. Exec: W. D. Browning, Jr. (100)

New Castle, Va., LYNN D. I. Exec: Jerome Abbott. (150)

Newport News, Va. (Hampton), GREEN ACRES AUTO PARK, Box 461, 39th St. and Aberdeen. Exec: Gordon Bros. (500)

Norfolk, Va., NORFOLK D. I., Virginia Beach Blvd., Rt. 58. Exec: Fabian Ct., 1501 Broadway, New York, N. Y. (768)

Norfolk, Va., WILDER D. I. Exec: Wilder Ct., Colley Th. Bldg. (650)

Orange, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (200)

Patrick Springs, Va., PATRICK D. I. Exec: Cecil Ward. (230)

Pearisburg, Va., PARK D. I., Box 455. Exec: Linden Hurst. (300)

Petersburg, Va., BLUE STAR D. I. Exec: Kent Benson. (250)

Petersburg, Va., PARK D. I., 2400 E. Bank P. O. Box 813. Exec: W. R. Saunders. (500)

Portsmouth, Va., AUTOPORT D. I. Exec: George Davis. (675)

Pound, Va., SUNDOWN D. I. Exec: D. P. Anderson. (125)

Radford, Va., AUTODROME D. I. Exec: J. D. Conklin. (200)

Radford, Va., HI WAY D. I., Rt. 11, P. O. Box 842. Exec: C. A. Lucas. (416)

Richland, Va., GUY'S D. I. Exec: F. G. Flannery, Jr. (300)

Richmond, Va., BELLWOOD D. I., Rt. 1, Box 1896. Exec: Neighborhood Ths. (1800)

Richmond, Va., BROADWAY OPEN AIR D. I., 4116 Grove Ave. Exec: J. E. Groh. (504)

Richmond, Va., SUNSET D. I. (Formerly Dixie), 219 E. Main. Exec: Childress and Childress. (355)

Richmond, Va., TWIN PINES D. I. Exec: Max Holland, Bob and Lewis Saunders. (400)

Roanoke, Va., BOOKER-T WASHINGTON D. I. Exec: R. E. Perdue. (220)

Roanoke, Va., LEE HI D. I., Rt. 11, Lee Hwy. Exec: J. R. Francis. (600)

Roanoke, Va., NORTH 11 D. I., Peters Creek Rd. Exec: R. C. Saunders. (400)

Roanoke, Va., RIVERSIDE D. I. Exec: Pence and Watts. (250)

Roanoke, Va., SHENANDOAH D. I. Exec: L. I. Theimer. (300)

Roanoke, Va., STAR CITY D. I. Exec: Warner and Chance. (250)

Roanoke, Va., TRAIL D. I., Rt. 1, P. O. Box 191A. Exec: G. A. Mundy. (250)

Rocky Mount, Va., FAIRGROUND D. I. Exec: Cecil Ward. (200)

Rocky Mount, Va., STAR VUE D. I. Exec: J. H. Allman. (200)

Ruckersville, Va., RUCKERSVILLE D. I. Exec: M. F. Weaver. (150)

Rural Retreat, Va., HILAND D. I. Exec: C. E. Dalton. (150)

Saint Paul, Va., BLUE GRASS D. I. Exec: G. T. Coleman. (200)

Sandston, Va., RICHMOND D. I. (Richmond), Williamsburg Rd., Rt. 3, Box 75. Exec: J. J. Kimmel. (425)

South Boston, Va., 501 D. I., P. O. Box 409. Exec: E. R. English. (200)

South Boston, Va., MOONLITE D. I., Route 58. Exec: C. G. Harris. (100)

South Hill, Va., OAK D. I. Exec: G. V. Jenkins and C. W. Gregary. (102)

Staunton, Va., STAUNTON D. I. Exec: J. Hofheimer. (290)

Stuart, Va., SKYVUE D. I. Exec: C. F. Branscome. (150)

*Stuartsville, Va., STUARTSVILLE D. I. Exec: R. M. Smith. (16mm. Film)

Suffolk, Va., PLANTATION D. I. Exec: Cecil Houck. (500)

Suffolk, Va., SUFFOLK D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (300)

Tazewell, Va., SUNSET D. I. Exec: T. D. Field. (200)

Thornburg, Va., THORNBURG D. I. Exec: Jack Lewis. (100)

Troy, Va., HUNTERS LODGE D. I. Exec: J. T. Robinson, Jr. (150)

Van Sant, Va., VAN SANT D. I. Exec: J. J. Kraft, Jr. (360)

Vinton, Va., DIXIE D. I., P. O. Box 137. Exec: E. C. Creasy and W. A. Bohon. (275)

Virginia Beach, Va., BEACH D. I. Exec: Allen Soble, Box 327, Franklin. (174)

Warner, Va., MIDDLESEX D. I. Exec: Gary Chatham. (150)

Warrenton, Va., WARRENTON D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (150)

Warwick, Va., ANCHOR D. I., Jefferson Ave. N. of Main St., (Chesterfield P. O.). Exec: Gordon Bros., Newport News. (500)

Waynesboro, Va., SKYLINE D. I., 326 King Ave. Exec: Newbold and Kessling Ct. (407)

West Point, Va., WEST POINT D. I., P. O. Box 201, Rt. 30. Exec: J. B. Cowles and M. Pilcher. (350)

Williamsburg, Va., STOCKADE D. I., Richmond Rd., Box 38. Exec: Cecil Houck. (350)

Winchester, Va., ROYAL D. I., Box 359. Exec: E. E. Ours. (300)

Winchester, Va., WINCHESTER D. I., Siler Star Rt. Exec: Ray J. Becker. (300)

Wise, Va., MULLINS OPEN AIR D. I., Rt. 23. Exec: Earl B. Mullins. (250)

Woodstock, Va., SHENANDOAH D. I. (Edinburg), Rt. 1. Exec: Teddy Shull. (300)

Woodway, Va., RAINBOW D. I. Exec: Earl B. Mullins. (200)

Wytheville, Va., SUNSET D. I. Exec: Convers Dalton. (200)

Yorktown, Va., YORK D. I., P. O. Box 462. Exec: M. V. Hogge. (200)

West Virginia

(NOTE: See also Cincinnati and Pittsburgh Territories)

Bartow, W. Va., BARTOW D. I. Exec: Wm. E. Kisner. (200)

Bolivar, W. Va., FORT D. I. Exec: E. F. Lane, P. O. Box 761, Martinsburg. (100)

Burlington, W. Va., BAKER'S AIR PARK. Exec: D. S. Baker. (200)

Charles Town, W. Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg, Va. (225)

Franklin, W. Va., WARNER D. I. Exec: Harold Warner. (150)

Marlinton, W. Va., BUCKEYE D. I. Exec: Charles J. Eib. (200)

Martinsburg, W. Va., DRIVE-IN. Exec: T. I. Martin. (211)

Martinsburg, W. Va., PINE GROVE D. I., Williamsport Pike. Exec: Harry Aikens, Clearbrook, Va. (275)

Martinsburg, W. Va., SKY VUE D. I., P. O. Box 652. Exec: Mrs. S. D. Murphy. (400)

Moorefield, W. Va., MOOREFIELD D. I., Rt. 220. Exec: James Miley, and Gray Barker, Box 981, Clarksburg. (200)

Princeton, W. Va., ANITA D. I. Exec: A. R. Belcher, and R. E. Perdue. (275)

AMERICA'S FINEST DRIVE

LENS! — ZEISS — LENS!

World's Finest Projection Lens

with

SPEEDS OF F: 1.9 and F: 1.2

and

TREATED SURFACES

Designed for American Projectors by the oldest Lens makers in the World

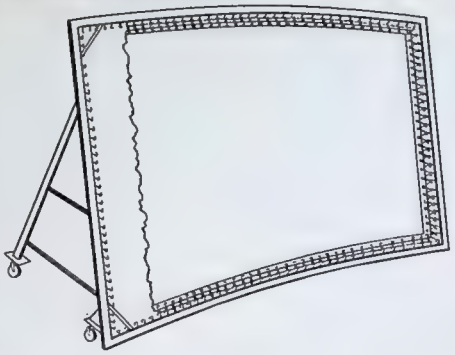
Several Models

From Wide Angle Short Focal Lengths up to the Longer Focal Lengths

PLACE YOUR ORDER NOW
BE SURE OF DELIVERY

We Are the American Distributors

This is to be a permanent item in our line of Top Quality Merchandise.



ONLY DIT-MCO CURVED METAL SCREEN FRAMES COMBINE ALL THESE FEATURES

- Available for any size stage.
- Special types may be designed for your individual requirements.
- Shipped knocked down with no member longer than acceptable by all commercial truck lines.
- Easily and quickly installed—complete installation plans furnished.
- "A" Frames are mounted on heavy duty hinges so they may be folded in, when flown or rolled to back wall.
- Any angle of tilt desired is built permanently in "A" Frames.
- Complete frame is painted flat black.
- Frames can be had without "A" Frames.

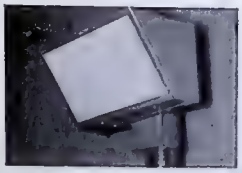
AMERICA'S FINEST RAMP IDENTIFICATION AND DRIVEWAY FLOODLIGHT—The one and only original patented ramp light serving a three way purpose—Ramp numeral — FULL sign and Driveway floodlight.

20" EXIT and 20" ENTRANCE SIGNS (Arrows either right or left or no arrow) eliminates confusion and directs cars in proper direction. Of durable rust proof aluminum and hammerloid finish these signs will give years of economical service.

SPECIAL WORDED PANEL SIGNS saves attendant costs, assures cooperation and a smoother more efficient operation. Above signs are available in either the 20" or 40" size.

CENTER AISLE LIGHT makes it easier for patrons to get to and from concession stand by properly marking ramps at center aisle. Panels numbered from 1 to 20.

RAMP END EXIT LIGHTS will speed up emptying of Drive-In at show breaks. Suitable for mounting on post or fence at exit end of each ramp. Use them and watch exit traffic smooth out. Arrow either left or right or no arrow.



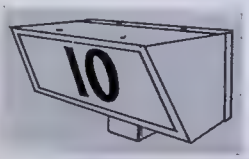
ROADWAY LIGHTS—Designed to replace various mushroom type lights and to give light where it is needed—on entrance or exit driveways from or to highway.

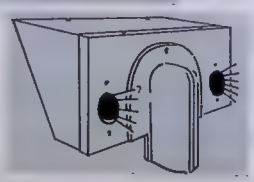
REST ROOM SIGNS avoid confusion and plainly mark rest rooms for easy accessibility. MEN and LADIES panels available. Designed for flush mounting.

40" ENTRANCE LIGHT plainly marks entrance and avoids confusion. Ruggedly constructed of heavy gauge aluminum alloy and gray Hammerloid enamel finish for long life. Arrow left or right or no arrow.

40" EXIT LIGHT smooths your exit flow at show break. Same rugged construction assures long use and economy. Both ENTRANCE and EXIT signs are Drive-In MUSTS. Arrow left or right or no arrow.

DIT - MCO CONCESSION LIGHT on all sides of your concession stand makes it easy to find, increases profits. For flush mounting.





DE LUXE CENTER AISLE LIGHTS have ramp number panels on the front and two red danger discs on the rear. Pedestrians or cars won't run into these lights. Panels numbered from 1 to 20.

TWO WAY CENTER AISLE LIGHT makes it easier for patrons to locate their proper ramp going to or coming from concession stand. Eliminates wandering pedestrians and avoids accidents. Panels numbered from 1 to 20.

Specially Worded Panels for All Lights Available

DRIVE-IN THEATRE MFG. CO.
(DIV. OF DIT-MCO INCORPORATED)

-IN THEATRE EQUIPMENT

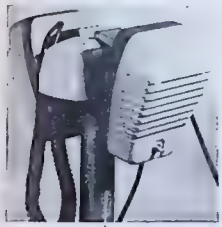
DRIVE-IN SCREEN COATING AND SCREEN MASKING—This screen coating is designed solely for Drive-In screens and—proved in use. Gives the maximum in clear cut projection and the assurance of extreme durability. Screen Masking was formulated with the same care to properly mask Drive-In Screens.

CONCESSION BUILDING SPEAKER for coverage of concession, manager's office, booth and rest rooms. Has built in volume control, easily adjusted to desired volume, wall mounting brackets and finished in natural or red baked enamel.

3-D
POLARIZING
SCREEN COATING

DIT-MCO 3-D POLARIZING SCREEN COATING was specifically developed for both 3-D and standard pictures. It is an all purpose metallic base paint suitable for either brush or paint spraying. Thoroughly tested and economically priced it is the answer to your 3-D Screen problems.

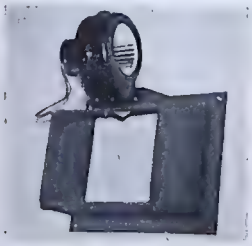
SCREEN TOWER—TWO TYPES—BEAM AND TRUSS—Both specifically designed in conformance with American Institute of Steel Construction specifications. Will resist winds of 30 pounds per square foot equal to 90 MPH gale, with ample factor of safety. Economically priced to give the maximum in beauty, strength and utility.



SENIOR IN-A-CAR SPEAKER represents the most advanced in electronical and mechanical design now possible to achieve. Faithful reproduction of sound. 5" speaker cone, koiled or straight cords, streamlined appearance and beauty. Transformer can be matched into any amplifying system.

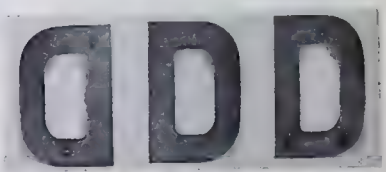
JUNIOR IN-A-CAR SPEAKERS are rigidly constructed for the utmost in performance and economy. An approved 3½" weatherproof speaker cone assures long, faithful sound reproduction. Beautifully and durably finished Junior speakers are available with koiled or straight cords. Transformer can be matched into any amplifying system.

UNIVERSAL IN-A-CAR SPEAKER matches in looks and performance many now in use in Drive-In theatres all over the United States and Canada. It can be used for replacements so as not to change the appearance of present equipment. Equipped with 4" weatherproof inside speaker unit. Speaker bracket made to fit any junction box in use.

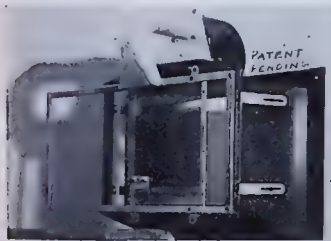


PORT HOLE BLOWER—New style made for wide angle projection. Top of housing slants up 25 degrees so housing may be mounted flush at port hole, and projection beam will pass through freely. Port hole blowers mean cleaner projection. Eliminates dust, rain, bugs and flies from coming in port hole. Eliminates need for optical glass in port hole, acts as auxiliary exhaust.

REPLACEMENT SPEAKERS—Three sizes, three shapes, three cone sizes. Left to right: DIT-MCO Senior 5" cone. Universal 4" cone. DIT-MCO Junior 3½" cone. All offer faithful sound reproduction and long life.



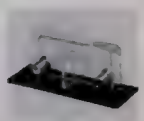
DIT-MCO EASY CHANGE MARQUEE LETTERS are weatherproof, won't warp or buckle and virtually indestructible. Available in black or colors, equipped with Snap Clips or Rigid Clips. Aluminum track for installation on metal or wood, billboard, marquees or walls. Rigid Clips take special track.



3-D FILTER ALIGNMENT AND COOLING MECHANISM—Mounts at porthole. Housing bottom slants downward at 25° angle enabling beam to pass through freely regardless of projection angle. Filters can be adjusted to 8 different positions and locked in place, yet operator can slide to one side for standard projection and still not lose his 3-D alignment. Housing can accommodate such wide angle projection as Cinerama and CinemaScope. Blower has ample capacity to cool the filter due to specially designed spreader which assures even distribution.

DIT-MCO STANDEE SPEAKERS are your answer to Playground, Lawn Chair Concession Stand, Overflow, Back Ramp and Truck area coverage. Unparalleled acoustic quality and volume control you set. Transformer impedance 2,500 and 7,500 ohms.

DIT-MCO ATOMIC JET LAMP HOUSE BLOWER permits higher amperage, produces cooler lamps, reduces carbon deposits and carbon consumption, even burning of carbon produces consistent brighter image. For amazing results try it and see.



BOXOFFICE MUSTS—Left to right (top): Roll Ticket Holder, Plastic Speaker Opening Grill. Left to right (bottom): Program Time Schedule Holder, Ticket and Change Making Space Lock. All necessary for efficient operation.

505 W. 9th STREET
KANSAS CITY 5, MO.

OTHER WELL-KNOWN AND WIDELY USED PRODUCTS

Neo-Seal Burial Wire
14-2 Sr. 12-2 Sr.
14-2 Sr. 12-1

Aluminum and Wood
Safety Ladders
Rotary Power Motors

One Source

FOR ALL YOUR

DRIVE IN NEEDS

NATIONAL
THEATRE SUPPLY
Division of National • Simplex • Bludworth, Inc.

EVERYTHING
FOR EVERY
DRIVE-IN
NEED . . .

Immediate Delivery!

The answer is simple, — DEPENDABILITY . . . A reputation for "know-how" in every facet of drive-in planning and equipment . . . immediate SERVICE from 29 branches, coast-to-coast, with a finger on the pulse of every new drive-in development! That's why more and more exhibitors come to depend on NATIONAL . . . and you'll be wise to contact NATIONAL for all your drive-in needs!

PLANNING! From A to Z — Covers Everything — ENGINEERING — BLUEPRINTS — KNOW-HOW!

EQUIPMENT! Place your confidence in NATIONAL Equipment — SELECTED — PROVEN — GUARANTEED!

FINANCING! NATIONAL has a sensible, convenient payment plan — pay out of income!

Are you building a drive-in? Contact your nearest NATIONAL Branch or write NATIONAL THEATRE SUPPLY, 92 GOLD STREET, NEW YORK 38, N. Y.

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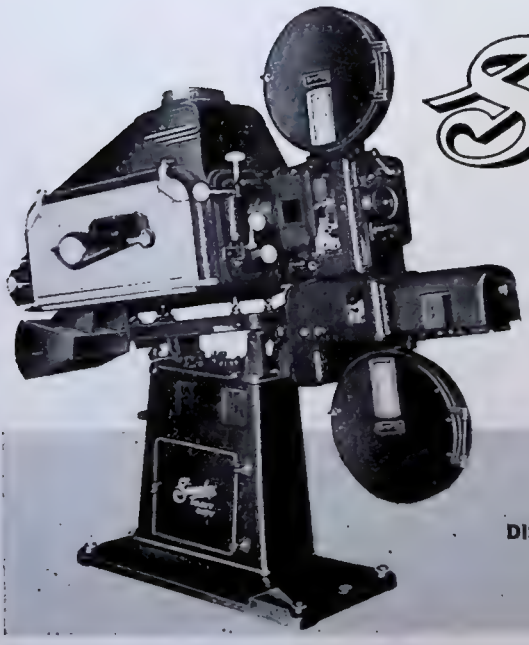
BELONGS IN YOUR Drive-In Plans!

SIMPLEX IN-A-CAR SPEAKERS for consistently superior performance under all weather conditions! Built to assure perfect, uninterrupted reception!

SIMPLEX SOUND SYSTEMS for the crystal-clear tone, the great frequency range that makes every picture more enjoyable, every theatre more popular!

SIMPLEX PROJECTORS for the thrillingly bright picture patrons demand . . . the steady, flicker-free picture patrons will return to see!



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X • L

PROJECTION and SOUND SYSTEMS

For Your Drive-In

MANUFACTURED BY INTERNATIONAL PROJECTOR CORPORATION

DISTRIBUTED BY **NATIONAL THEATRE SUPPLY**

Division of National • Simplex • Bladworth, Inc.

Ballantyne's Outstanding, New Dub'l-Cone* IN-A-CAR SPEAKER

BUILT TO OUTLAST ANY OTHER SPEAKER

3 to 1

Ballantyne Dub'l-Cone speaker is a revolutionary new development in drive-in-theatre in-a-car speakers. It offers features never before found in any speaker, regardless of cost. In fact, Ballantyne brings you all of these features at a cost no greater than you pay for run-of-the-mill speakers on the market today. And the Dub'l-Cone speaker will outlast 3 to 1 any other speaker available.

Again Ballantyne engineering brings to the drive-in theatre a product years ahead of the field in design, construction, and quality of reproduction. The Ballantyne Dub'l-Cone offers all of the desirable features of a top quality speaker, plus advanced improvements which overcome practically all of the disadvantages of ordinary speakers.

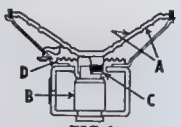
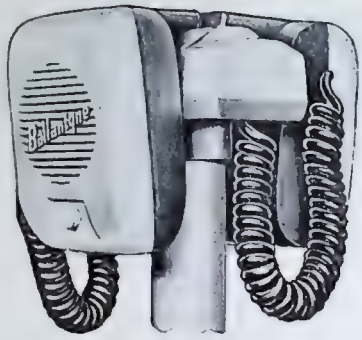


FIG. 1



* Trade Mark Registered. Patent Pending.

FEATURE 1 — The sensational Dub'l-Cone 4" Speaker (Fig. 1, A). Consists of two cones, one superimposed over the other with a 3/16" air space between. The outside cone for protection, the inside for projection, of sound. Both cones are completely weatherproofed by the latest methods.

The sun can dry or bake out, water can soak, and the outer cone can go to pieces **without damage to the inner cone.**

If the outside cone ever becomes destroyed it can be replaced with a new cone and ring by the drive in theatre owner in a few seconds . . . and have a new speaker for less than 20 cents.

FEATURE 2 — INCOMPARABLE QUALITY SOUND. Has a Heavy 1.47 ounce Alnico 5 Magnet (Fig. 1, B) which gives 2 to 3 times the power of earlier magnet materials. This plus the sounding board effect of the protective cone and air space produces sound that is more completely developed in the lower frequency than ordinary speakers and gives a full round tonal effect to both music and voice. The life-like sound reproduced by this speaker more closely resembles theatre sound than anything heretofore available.

FEATURE 3 — Aluminum Voice Coil (Fig. 1, C). The Voice coil is aluminum . . . will not swell, warp, or buckle. Retains its shape thus maintaining the vital delicate air gap around it.

FEATURE 4 — Alumizite treated diaphragm. (Fig. 1, D). Impervious to rain, dampness, sun and heat. The only speaker on the market, with treatment of any kind at this vital point.

FEATURE 5 — Die Cast Aluminum Case in two tone finish. The case is die cast of aluminum for strength, lightness, and durability, and has a beautiful two-tone finish. Both colors are double-coated and each coat baked on. It is truly the most beautiful speaker on the market. The junction box is also finished in the same two-tone effect.

FEATURE 6 — Every point in a speaker that can be attacked by water or dampness has been protected in the Ballantyne AX Series Dub'l-Cone Speaker.

OTHER OUTSTANDING FACTS about the DUB'L-CONE SPEAKER —

- All metal parts are zinc-plated by a special process.
- Cones, gaskets, and dust buttons are treated with a fungus and weatherproof lacquer approved for use on Signal Corp equipment.
- Gaskets are punched out of solid beaverboard to eliminate splitting as often happens with laminated chipboard normally used.
- A Brass dust collar completely eliminates any possibility of corrosion.
- A high quality, enclosed, wire-sound volume control is used.
- The junction box transformer is varnish impregnated to guard against moisture.
- The AX Series Dub'l-Cone speaker is available with or without downlights, and with straight or coiled cords.

COMPLETE PACKAGED EQUIPMENT FOR DRIVE-IN-THEATRES

As the originator of "packaged" equipment for drive-in-theatres, Ballantyne still offers the only complete package unit for any size theatre. Included are: In-a-car Speakers, Soundheads, Amplifiers (Single or dual channel), Ramp control panel, Projectors, Hi-Tilt projector Bases, 18" Magazines, Projector Changeovers, Arc Lamps, Rectifiers, Tungar Tubes, Lenses, Electric Rewind, Hand Rewind, Rewind Table, Film Cabinet, Aluminum Reels, Film Splicer, Reel End Alarms, **And a completely prefabricated screen tower.**

Added to this is Ballantynes offer of a layout of the size drive-in you desire on your own piece of property, including entrances, exits, ramp detail, projection and concession room plans, etc., free of charge. The job of building your drive-in resolves itself to your securing a dirt man and a local contractor to erect the projection and concession room building. Your problem is reduced to the simplest terms. Write for complete free details, catalogs, pictures, blue prints, and the name of your nearest Ballantyne Dealer.

NEW 3-D INTERLOCKS ELECTRICAL AND MECHANICAL

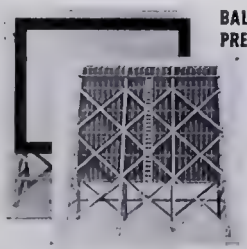
3-D-1 and 3-D-2 Universal Electrical using Selsyn motor.

3-D-4 and 3-D-5 Universal Mechanical for other units than Soundmaster Soundheads.

3-D-6 Mechanical with Instant Disconnect for Model 6 Soundmaster Soundheads.

3-D-9 Mechanical with Instant Disconnect for Model 9 Soundmaster Soundheads.

Complete 3-D Equipment is available through your Ballantyne Company Dealer.



BALLANTYNES COMPLETELY PREFABRICATED SCREEN TOWER

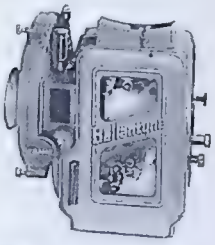
To meet all the requirements of government limitation order M-4 Ballantyne offers a skillfully engineered, completely prefabricated screen tower for drive-in theatres. All timber used in the tower is Douglas Fir, select structural, as graded by the West Coast Bureau of Lumber, Grades and Inspection, or equal. The entire structure is anchored by 8 concrete footings, cross braced for maximum strength, and designed to withstand a 35 pound per square foot wind load. The entire screen area and screen border is covered with shiplap for added strength and protection to the picture screen. A transite screen facing over shiplap insures flat picture surface. All members are pre-cut and drilled for quick and easy assembly. Complete plans for erection are furnished. Shipped complete to your drive-in site on company truck.

For low cost, rigidity, durability, and easy erection you can't beat the Ballantyne Prefabricated screen tower.

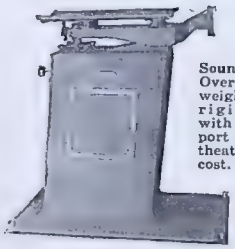
THE BALLANTYNE COMPANY
1712 JACKSON STREET, OMAHA, NEBRASKA, U. S. A.

Ballantyne's COMPLETE LINE OF INDOOR THEATRE Projection and Sound Equipment

The New Royal Soundmaster Model 9 Soundheads combine more new features, simplified design, and advanced engineering to bring to the theatre the most outstanding sound reproducer available—regardless of cost.



Model "BW" Projector. Endorsed, approved, and installed as standard by many leading circuits.



Soundmaster Bases. Over 200 pounds of weight gives perfect rigidity. Available with reverse tilt support arm for drive-in theatres at no extra cost.

Royal Soundmaster Complete Sound Systems. For theatres of any size. Includes Soundheads, single or dual channel Amplifier, and Two-Way Horn System.

Lightmaster Model 4570 Arc Lamp. 45 to 80 amperes. Provides brilliant light for even the largest theatre or drive-in.

Royal Soundmaster Amplifiers. No amplifier on market compares in features and low cost. Available in single channel and dual channel with instant changeover switch.

The Ballantyne line also includes, rectifiers, motor generators, magazines and a complete selection of projection room accessories.

THE BEST AND MOST COMPLETE SET OF RAMP AND DIRECTIONAL SIGNS

Dawo Ramp and Directional Signs bring to the theatre a solution to the traffic control problem. With Dawo Ramp Signs, you eliminate wandering customers and the continuous search for parking space. A sign for every need, these modern Drive-In Theatre tested ramp signs are made of sand cast aluminum with a brown hammerloid finish. The size is 14" x 9" x 5", equipped with waterproof light socket and post mounting bracket to fit all size pipe. Dawo Ramp and Directional Signs are made in both vertical and horizontal types, which may be determined by the glass and description below.

★ D-37

This Dawo sign located at entering end of ramp, has two lights and manual switch to indicate when ramp is full. All Dawo signs illuminate walkways and driveways.

★ D-37-A

A Dawo sign for ramp identification — not complicated — just good. All Dawo signs illuminate walkways and driveways.

D-36-R

For proper control of incoming traffic this Dawo sign will place the drivers in the entrance lane. All Dawo signs illuminate walkways and driveways.

D-36-L

A left handed method to get drivers into the entrance lanes. All Dawo signs illuminate walkways and driveways.

D-36-B

This sign placed before your ticket booth will move traffic into your theatre without boxoffice delay. All Dawo signs illuminate walkways and driveways.

D-36-F

For men only — this sign should have a deterring effect on the opposite sex. All Dawo signs illuminate walkways and driveways.

D-36-D

These Dawo Ramp Signs placed on the walkway at the end of each ramp, will definitely increase concession sales. All Dawo signs illuminate walkways and driveways.

D-36-E

Primarily intended to allow the ladies to find the rest rooms and keep men out. All Dawo signs illuminate walkways and driveways.

D-36-XL

This Dawo sign, when post or fence mounted at the end of ramp, will move traffic out fast. All Dawo signs illuminate walkways and driveways.

D-36-C

This Dawo sign placed after the boxoffice is a simple method of solving a complex problem. All Dawo signs illuminate walkways and driveways.

D-36-XR

This Dawo sign, simlar to D-36-XL, serves the same purpose except that it directs to the right. All Dawo signs illuminate walkways and driveways.

CAR SIDE AND CONCESSION SPEAKER

For a more satisfied clientele and in order that the continuity of a picture may not be broken, may we suggest the immediate installation of our D-35 Wall Mounted Speaker in your concession stands, rest rooms and on individual posts for walk-in patrons and holding ramps.

This D-35 Dawo Post Speaker is made in a sand cast aluminum case, beautifully finished, containing an oversized, waterproof speaker with self contained transformer.

QUALITY

Strength combined with the beauty of functional design, the graceful symmetry of the case, together with the concert hall quality tone, the finest of component parts, carefully assembled.—These we offer you.

ECONOMY

The case and junction box are made of sand cast aluminum with a baked-on hammerloid finish . . . . light in weight, yet practically indestructible! The speaker contains a press fit ground magnet that is guaranteed against slippage or warpage. It sets in a unique torsional mount which prevents warping or pull on speaker cone. The speaker cone itself is completely weather-treated, and the case has full water drainage at the cone level and at the case bottom. Recent improvements to this popular speaker include extended louvres, and double strength back. Acousticraft speakers are available with or without built-in-down-light in the junction box. Down-light has completely waterproof, nylon-enveloped sockets.
The junction box has a heavy duty matching transformer and is equipped with an enclosed terminal strip for connecting and disconnecting speakers. It is designed to fit any pipe from 1½" to 2⅜" O.D. with no special adapters needed.

DEPENDABILITY

The degree of dependability may be ascertained by the fact that there are over 250,000 of these speakers in use in Drive-In Theatres from coast to coast.

D-30

Straight Cords — standard junction box and quality.

D-31

Koiled Kords — standard junction box and quality.

D-32

Straight Cords — junction box with jeweled down lite.

D-33

Koiled Kords — junction box with jeweled down lite.

As an indication of "SO MUCH FOR SO LITTLE" you may have the name of your theatre cast on the speakers in lots of fifty or more, at no extra charge whatsoever.

FOR FREE CATALOG AND ADDITIONAL INFORMATION . . . WRITE

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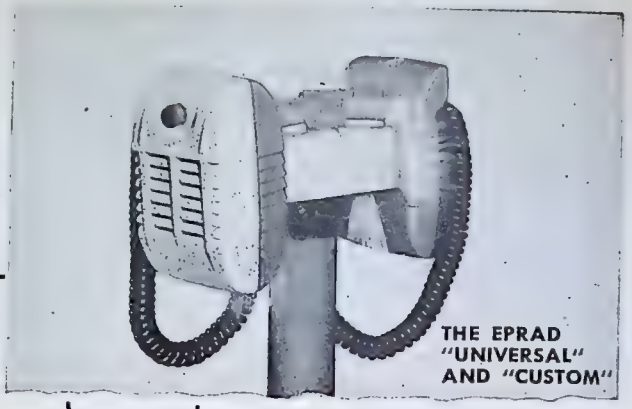
EPRAD

"UNIVERSAL"

Die-Cast ALUMINUM Speaker--

THE In-The-Car Speaker With All These ADVANTAGES . . .



THE EPRAD "UNIVERSAL" AND "CUSTOM"

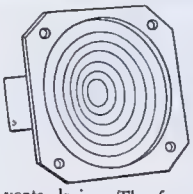
A SPEAKER THAT HAS:

- Quick-Disconnect Terminals for Rapid Installation
- A Beautiful Glo-Top Junction Box in 4 Brilliant Colors
- A Fiberglas Acoustical Pad to Improve Sound
- A Cord Which Can be Changed in 60 Seconds
- A Volume Control at Top Where it Belongs
- The Finest, Clearest, Most-Natural Tone
- Eliminated the Need for Check-Outs
- The Lowest-Known Maintenance Cost
- A Trouble-Free Volume Control
- A Non-Shorting Junction Box
- A Lifetime Transformer
- Simplest Maintenance
- A Reasonable Price
- Longer Cone Life

EPRAD HAS THEM ALL!

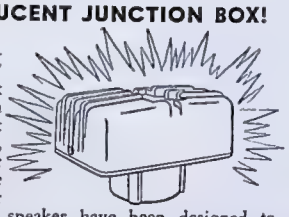
See Your Favorite INDEPENDENT Theatre Supply Dealer!

SILICONE-TREATED CONE!



Full fidelity and dynamic range are acquired with Eprad's silicone-treated cone. This cone will last almost indefinitely because the non-evaporating silicones moisture-proof the cone and a paraffin base prevents drying. The four-inch driver unit makes full use of cavity resonance to give better bass response. Eprad's plastic "raincoat," which does not impair sound or efficiency, is also available at slight additional cost.

TRANSLUCENT JUNCTION BOX!



This beautiful "Glo-top" junction box is available in 4 brilliant colors: green, red, amber and blue. The "ears" for hanging the speaker have been designed to make it practically impossible to knock or blow the speaker off the junction box. Down-lights are available at extra cost.

FUNGUS- AND MOISTURE-PROOF TRANSFORMERS!

Eprad transformers are double-hard varnished and vacuum-impregnated to make them fungus- and moisture-proof. Because of a better transformer and a larger magnet on the speaker, the over-all efficiency is the highest, and you get more sound volume and better quality than by any other system.

AMAZING HUMIDITY TEST!

After over 500 hours of a steam humidity test, EPRAD speakers and junction boxes continued to operate perfectly. Every part in Eprad speakers is chosen because of its Anti-Corrosion properties . . . thus eliminating interference and assuring long life.

WRITE FOR FREE LITERATURE!

EPRAD

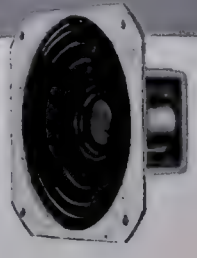
1206 CHERRY ST. • TOLEDO 4, O.

RAPID INSTALLATION with exclusive QUICK DISCONNECT TERMINALS

Simple assembly and exclusive, quick disconnect terminals make this the easiest speaker to install. Eprad's auto clip snaps over the quick disconnect — NO TOOLS ARE REQUIRED!

DELUXE STAMPED-STEEL and SAND-CAST ALUMINUM SPEAKERS!

Eprad also makes a rugged, light-weight, stamped-steel speaker that has been designed to last a lifetime. They have a special primer and two-tone vinyl-finish baked on over Parkerized steel. One-screw assembly and exclusive, quick disconnects make it the easiest speaker to service. The spiral-wire volume control is the BEST!



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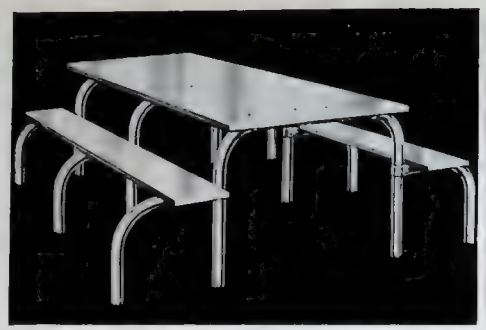

American Streamlined Heavy Duty Picnic Table

An American De Luxe Slide Combination Unit

Unsurpassed IN DESIGN, PERFORMANCE AND SAFETY

It's the *plus* factor that makes American the most respected name in Playground Equipment. First, plus in *design*. Never content to copy, American engineers have pioneered scores of design improvements and innovations. Next, plus in *performance*. Employing superior materials, master craftsmanship and improved production methods, American Approved Equipment is built to endure. Finally, plus in *safety*. American craftsmen are aware of their responsibility for the safety of your children. Thus, with American you receive a combination of far superior design, unexcelled performance, and unmatched safety.

The *plus* factor extends to our dealings with customers. You will find AMERICAN pleasant to do business with, prompt and equitable in adjustments, eager to protect an enviable reputation nearly half a century old.

Above—New All-American Picnic Grill

Below—An American Official Regulation One-Meter Diving Unit

AMERICAN

PLAYGROUND DEVICE CO.
ANDERSON, INDIANA

World's Largest Manufacturers of Fine Playground & Swimming Pool Equipment

Write Today FOR CATALOGS AND SPECIAL LITERATURE FEATURING AMERICAN APPROVED

PLAYGROUND EQUIPMENT • • • SWIMMING POOL EQUIPMENT • • • ALL-AMERICAN PICNIC GRILLS
ALL-AMERICAN UNIFORM HANGERS • • • AMERICAN HEAVY DUTY CHECKING AND GYMNASIUM BASKETS
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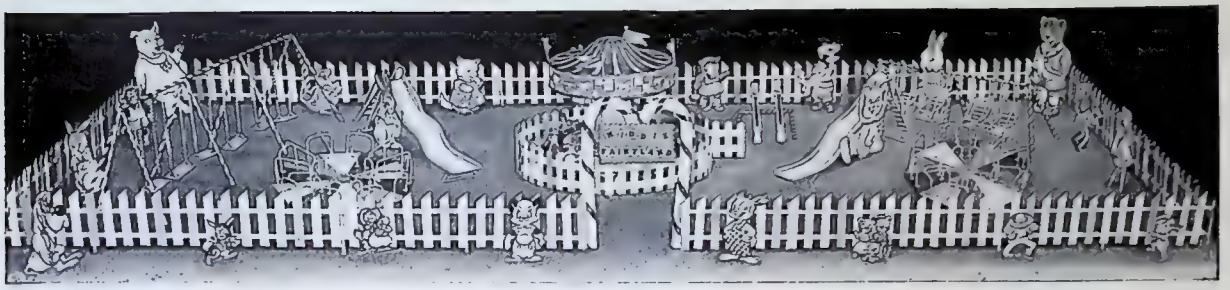
Internationally Specified . . . . . Internationally Approved

Make Your Playground Your "Pay-Ground"!

with the Miracle KIDDIE FAIRYLAND



The Miracle KIDDIE FAIRYLAND features the Miracle Pony Ride and Lifetime Miracle Whirls plus Miracle Slides, Swings, See-Saws and Multi-Climbs. Note also the colorful Masonite "fairy-tale" characters which further enhance the enchantment of Miracle KIDDIE FAIRYLAND.

Safety, Popularity, Durability . . . and LOW COST . . . you get all these advantages—plus many more—once you install a **Miracle KIDDIE FAIRYLAND!**

SAFE? Yes . . . because we know children! That's why safety is the first consideration in all Miracle Equipment. Result: not one serious accident ever reported on Miracle Equipment!

POPULAR? Yes . . . because we know what children enjoy! That's why all Miracle Equipment is exclusively designed with "small fry" in mind. Result: you'll usually double your concession receipts with a **Miracle KIDDIE FAIRYLAND!**

DURABLE? Yes . . . because we know how hard children play! That's why all Miracle Equipment is built to keep maintenance at a minimum. Result: occasional painting is the only upkeep required for all Miracle Equipment.

LOW COST? Yes . . . because we know what YOU can afford. That's why we have a **Miracle KIDDIE FAIRYLAND** "tailor-made" to fit your budget. Result: you receive a tremendous return from a relatively small investment.

Get all four—safety, popularity, durability, low cost—and more . . . with a **Miracle KIDDIE FAIRYLAND!** Write today for FREE descriptive literature and prices!

All The Ponies Are "SURE BETS" on the Miracle PONY RIDE

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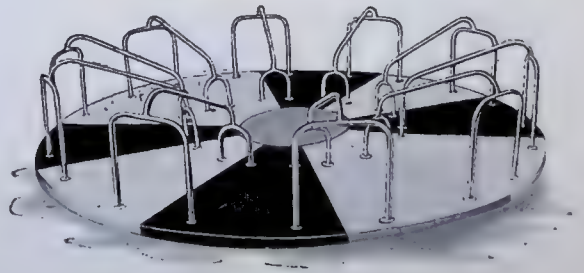

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2 STAR PERFORMERS

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FRONT *and* LOBBY

1953-54

Review of the Use of Signs and Letters

Pictorial Presentations of Installations Showing the Trend in Modern Front Design

Motion pictures are a branch of showmanship. This is a simple statement that no one could justly dispute. Being a branch of show business, it is important that the theatres SHOW the public what they have to offer. The most direct method of achieving this is by the use of marquees.

The motion picture theatres today are in a highly competitive situation. As perhaps in no other period in the industry's history, the public is being wooed on all sides for its entertainment time and entertainment dollar. Of course 3-D, wide screens, and stereophonic sound are arousing a renewed interest. However, exhibitors must still get the public into their theatres . . . and this still takes old fashioned selling.

Successful showmen have indicated an awareness of the fact that they have to sell hard every day. More and more of them are spending their advertising dollars in point-of-purchase promotion, which means fronts and well-lighted attraction panels which are large enough to carry powerful sales copy in the most attractive manner.

All the major manufacturers of marquees and letters report that theatres are installing larger and larger panels. One of the most requested features is panels which can be serviced through open windows, so that lamps can be replaced as easily as though they were exposed.

In addition to being practical and easy to maintain, the marquees on many of the nation's theatres reflect the imagination and ingenuity of their designers. This refers in particular to the drive-in.

The imaginatively designed attraction boards and novel lighting displays of the outdoor theatres have transplanted bits of Times Square glamour along highways winding from the historic New England countryside, through the waving Kansas wheatfields, to the Pacific.

The showman's touch in dressing up the front of the outdoor theatre in an inviting manner, is a factor of considerable import in the phenomenal growth of the drive-in from a roadside curiosity to a vital component of the entertainment industry in the span of two decades.

Just as the magical glitter of lights has played a key role in the physical transformation of the nickelodeon into the magnificent movie palaces representing the best of today's showhouses, the imaginative use of lighting has been an equally important factor in the coming of the age of the drive-in.

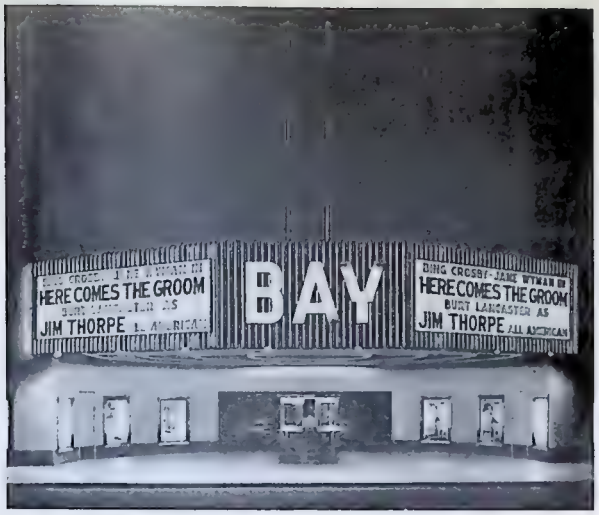
Presented here are a few examples of how signs and marquees can serve as effective drawing cards. Backs of screen towers, painted with murals or trimmed with bright swirls of neon and mazdas, are converted into imposing facades. Marquee-like structures, towers, panels, and all sorts of ingeniously designed lighting mounts serve as attention-getters and distinctive signatures.

The unusual applications of front lighting depicted here, are but a few of the various types in use today, and suggest countless other possibilities. Developed with taste and imagination, the front of the indoor and outdoor theatre can exert a surprising power of attraction, and will bring continued dividends in increased patronage.

Most of the photographs used were supplied by Wagner Sign Service, Inc.

THE TOWER, Houston, Texas

THE COMPTON DRIVE-IN, Compton, California



THE BAY, National City, California

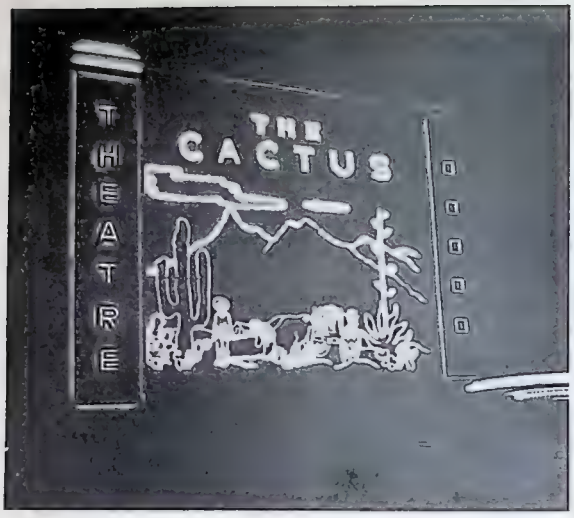
THE VILLA, Salt Lake City, Utah

THE MUSIC HALL, Seattle, Washington

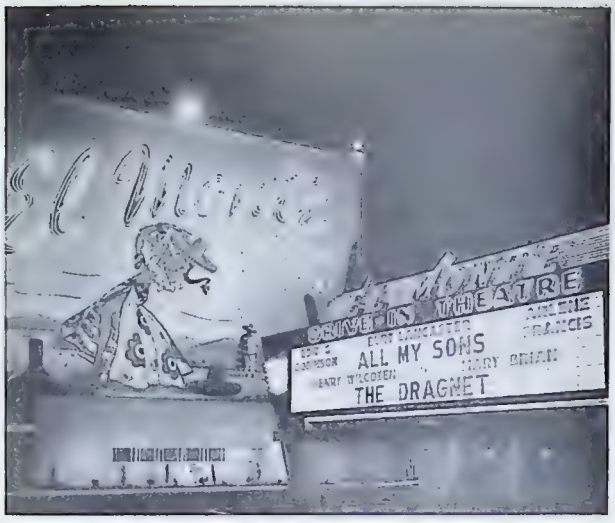
THE BOOKER T, Detroit, Michigan

THE CAPITOL, Steubenville, Ohio

THE HELIX, LaMesa, California



THE CACTUS DRIVE-IN, Pharr, Texas



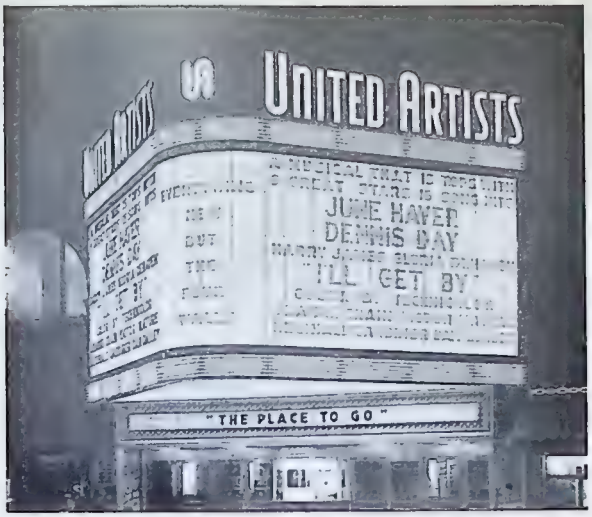
THE EL MONTE DRIVE-IN, El Monte, California

THE TRAIL DRIVE-IN, Lubbock, Texas

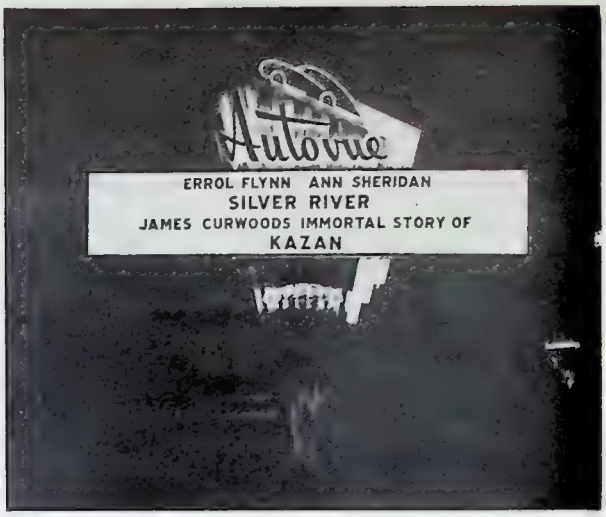
THE VARIA DRIVE-IN, Jackson, Mississippi

THE STARLITE DRIVE-IN, El Monte, California

THE CHERRY PASS DRIVE-IN, Beaumont, California

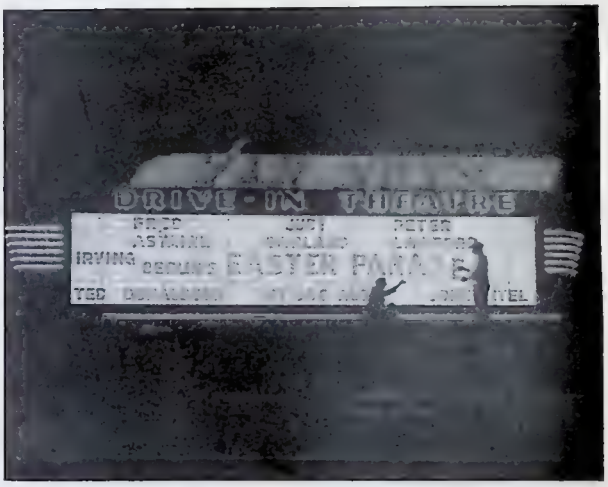


THE UNITED ARTISTS, Detroit, Michigan



THE AUTOVUE DRIVE-IN, Spokane, Washington

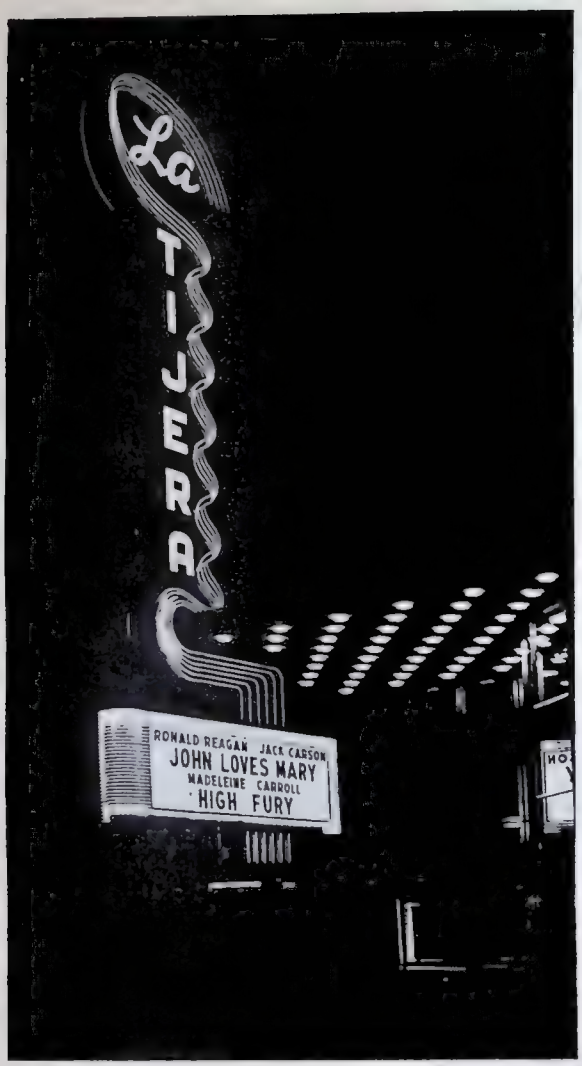
THE PLAINS, Roswell, New Mexico



THE VAN NUYS DRIVE-IN, Van Nuys, California

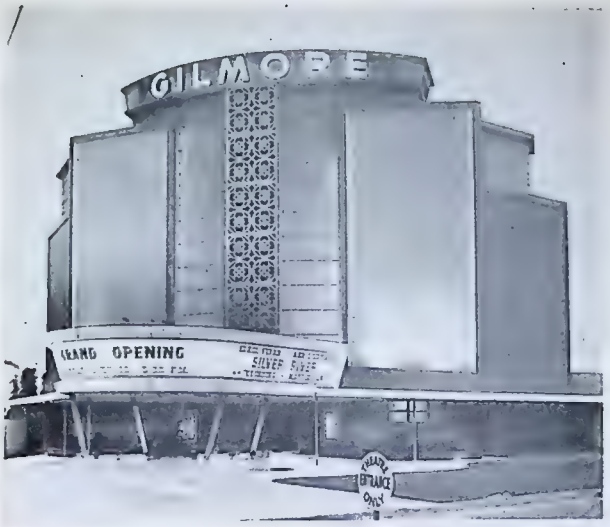
THE CENTURY DRIVE-IN, Inglewood, California

THE REDWOOD, Redwood Falls, Minnesota

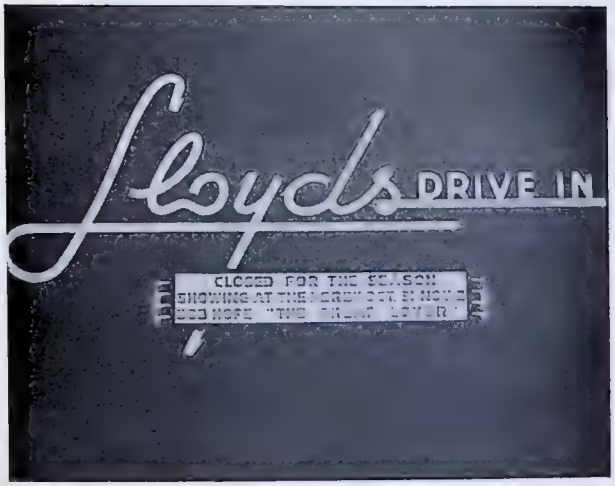


THE LA TIJERA, Hollywood, California

THE AIRLINE DRIVE-IN, Houston, Texas



THE GILMORE DRIVE-IN, Los Angeles, California



THE LLOYDS DRIVE-IN, Billings, Montana

THE STARLITE DRIVE-IN, Birmingham, Alabama

Sidewalk Housekeeping

Snow Melting System, Similar to Radiant Heating, Will Clear Pavements with the Flick of a Switch

By Oscar Shiefler

Let's suppose your theatre has a sidewalk in front of it that measures 20 feet from wall to curb and is 50 feet long.

Then let's suppose you have a moderately heavy snowstorm, with an accumulated fall of two inches.

What if someone told you you could have the snow removed for 23 cents? Not only that, but it would be removed as fast as it fell and there would be no snow shovels or chemicals to inconvenience patrons and passersby?

These figures are based on statistics recently published by A. M. Byers Company, Pittsburgh, on the subject of snow melting systems. According to the statistics, the most accurate information shows an operating cost of 11.5 cents per thousand square feet per inch of snow melted.

What is a snow melting system? Simply stated, it's a means of heating your sidewalk or other paved surface so that it will melt snow or ice. Technically speaking, this method of raising temperature is not radiant heating, although installation techniques are similar.

How the System Works

Here's how it works. Wrought iron pipes, either in sinuous coils or in grids, are laid over a fill of crushed stone, washed gravel, or other non-acid-producing material. Since such a fill is necessary in the construction of any paved surface, there is no extra cost involved here. The pipes may be fabricated into coils or grids in the heating contractor's shop or at the site of the job.

The pipe is supported so that it is the proper distance above the fill. Then, after it has been tested by applying hydraulic pressure, the piping is completely embedded in concrete, asphalt, or whatever other material is to be used.

When the first snow comes, all it takes is a flick of a switch to set your snow melting system in operation. A solution of hot water and antifreeze is circulated through the pipes, and the temperature of your sidewalk goes well above the freezing point in almost no time, making it impossible for snow to accumulate or ice to form.

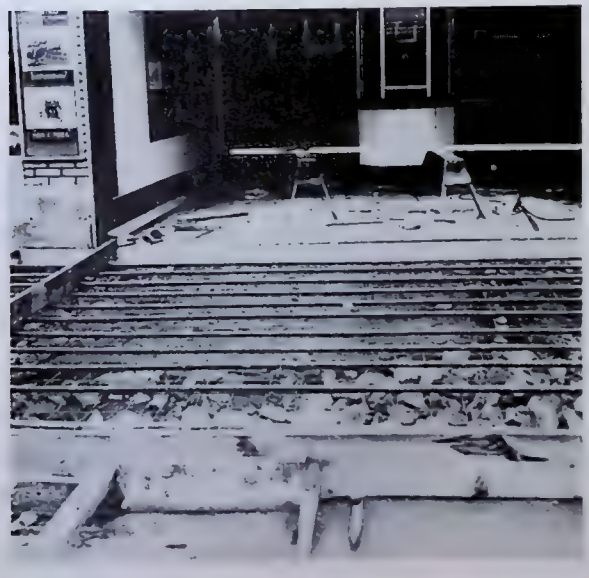
The water may be heated in a boiler by oil, gas, coal or any other conventional fuel, or in a converter by steam or hot water. Since most space heating installations are designed to provide sufficient warmth even at extremely low temperatures, there is usually considerable excess capacity around 26 degrees F., which is the temperature at which most snow falls. For example, if your present steam or hot water system is designed to operate at full capacity at zero degrees F., it will have a third of its capacity available for snow melting when the temperature is around the point at which snow usually falls—that is, the mid-twenties.

In the same way, the excess capacity of a low-pressure steam or hot water boiler can be put to use by the insertion of a coil of the proper size in the water chamber or by the addition of a convertor. Where the capacity is not sufficient, a second source of heat may be installed to help carry peak melting loads. Some installations use the excess capacity of their space heaters to warm up the system when the temperature

BRIEF: ***Cleaner theatre interiors, convenience to patrons, and insurance against costly damage suits are the dividends resulting when pavements fronting theatres are dry and free of ice and snow during inclement weather . . . The snow melting system is an efficient and economical means of keeping pavements clear . . . Wrought iron pipes are embedded in the concrete . . . a solution of hot water and antifreeze is circulated through the pipes . . . and sidewalk temperature goes well above freezing almost immediately.***

There are several methods of circulating the heating solution and putting the system into operation . . . Cost of installation found to range from $1.00 to $1.80 per square foot . . . The snow melting system has many advantages . . . and is gaining increased acceptance.

A SNOW MELTING SYSTEM that spanned the sidewalks in front of two of his theatres in Barnesville, O., was installed by Edward Modie. The first step was to rip up the old sidewalk and install wrought iron heating pipes, as shown at left. After the pipes had been connected to an automatic gas heater and were tested under pressure, the cement was poured, as shown at right. The effective system has made a great difference in interior cleaning costs.



drops below a certain point, and install another heater to provide the extra heat needed to carry the full melting load.

In addition, snow melting systems require some means of circulating the heating solution through the pipes. When the area to be heated has a natural slope and the pipe run is short, it may be possible to use a so-called "thermal syphon." Ideal conditions are seldom met, however, and the safest procedure is to use a pump for circulation.

Most systems are turned on manually, by means of an on-off switch, the only other control being an aquastat to prevent overheating of the circulating medium. It is possible, however, to install more complicated controls, including one that will turn your system on whenever the temperature drops below a certain predetermined point.

Cost

What does it cost to install a snow melting system? Naturally, the answer to this question depends on a lot of factors, among them the skill of the contractor who is to make the installation. Typical small-area installations, such as would be required for all but the largest theatre sidewalks, were studied for the period 1947-49 and it was found that costs ranged from $1.00 to $1.80 per square foot of area to be melted. The best way to find out what such a system would cost you, however, is to call in a heating contractor and ask him to submit an estimate.

Advantages

What are some of the advantages of a snow melting system? Here are the ones most frequently reported by those who own them:

1. It is automatic. Once the switch is turned on, there is nothing more to do but sit back and watch the snow melt on your sidewalk, even while it is piling up on the sidewalks of other buildings all around yours.
2. It relieves your mind of the worry of liability because of injuries to passers-by and patrons. When your system is set to begin operation by automatic control, it makes certain your sidewalk will never be covered with snow or ice—even if bad weather comes overnight.
3. It cuts down cleaning costs in the interior of your building. Customers stamp their feet dry on the clear sidewalk before entering.
4. It has publicity value. If you contact the newspapers at the time when your system is being installed, and again when it operated during the first snow following installation, you stand a good chance of reaping publicity benefits. Snow melting is still news.

The System in Operation

The first recorded installations of snow melting systems for theatres were made by Edward J. Modie for his two theatres in Barnesville, Ohio. Before the installation, Modie used to have to keep a crew of ushers with mops in the lobbies to clean up slush and water tracked in by patrons.

The first thing he did was to have the existing sidewalk torn up in front of his two theatres, which are on the same street near each other. Then coils of wrought iron pipe were positioned so that they would rest two and one-half inches from the finished surface. The coils were connected to an automatic gas water heater in the basement of the theatre, and a new sidewalk was poured, embedding the pipes.

Water temperature in the supply main is held at 95-100 degrees F. The system is kept in continuous operation in winter, and Modie reports that his sidewalk becomes dry rapidly after a rainfall.

The management of the Covedale, Cincinnati, notes two outstanding advantages achieved by their snow melting system: good will and cleanliness. In regard to the latter, they state that wear on the theatre's expensive carpeting is greatly reduced.

The Covedale installation is similar to the two in Barnesville. Nearly a thousand feet of wrought iron pipe, welded together in a grid, are embedded in the concrete sidewalk. Antifreeze is used to protect the system when it is not in operation.

Concealed snow melting is gaining in acceptance for commercial establishments, industrial driveway and loading platforms, office buildings and the like. It seems probable that it will find increasing favor among theatre owners, who have always led the way in providing patron convenience.

CINCINNATI'S COVEDALE has the modern convenience of a concealed snow melting system in its sidewalk. In this photo, all snow has been removed by the heating action of wrought iron pipes, and it has not been necessary to use snow shovels or other mechanical or chemical means.

THE WORLD'S LARGEST LINE OF SHOW-SELLING EQUIPMENT

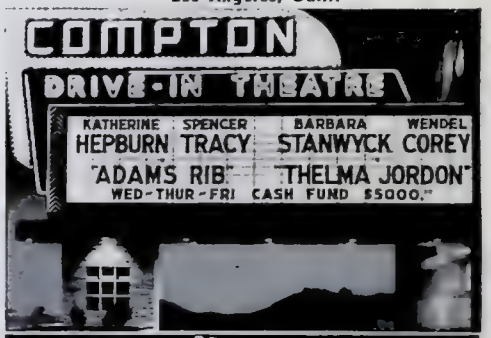
Show selling is made easy with Wagner displays—the show-sellingest medium ever devised. Exclusive features make them the most popular of all display equipment.

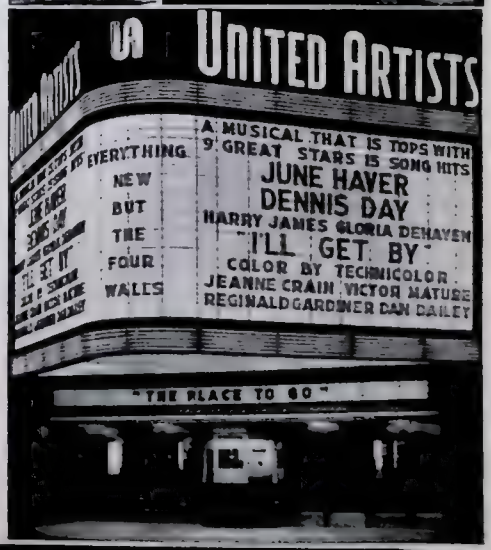
Successful showmen know that you have to sell hard EVERY day—that you can't just wait for the "big ones" to come along. They bill every attraction as a big event.

Well-lighted attraction panels—large enough for plenty of powerful sales copy and enough letters to spell it out as you planned it, with a variety of sizes and colors to lend emphasis—are getting the business and at smallest cost. You can't sell 'em if you don't tell 'em! Spend your advertising dollars smartly. Invest them in point-of-purchase promotion.

Put a Wagner display to work for you. Send today for the BIG FREE CATALOG on the Wagner line—the largest line of show-selling equipment in the world.

Installation made by B. F. Shearer Co. Los Angeles, Calif.





WAGNER STAINLESS STEEL FRAME AND GLASS UNITS

WAGNER WINDOW-TYPE FRAME AND GLASS UNITS

(Patent Pending)

RECOMMENDED FOR ALL OPENINGS OVER 43" IN HEIGHT

The only frame which affords openings and billing space of any height or length in ONE panel, making it unnecessary to join together a series of small signs. Because of their stronger construction plus the fact that these frames can be installed in the sign without any glass in them and glass installed later, Wagner Window-Type Frames can be built in larger sections than is possible with any other design—a vitally important feature with drive-ins where large displays are necessary. Lamps, neon and glass can be serviced without removing the frames.

All parts of the sign may be serviced through open windows. Lamps are replaced as easily as though they were exposed. These frames soon pay for themselves by elimination of maintenance costs necessary with any other large frames.

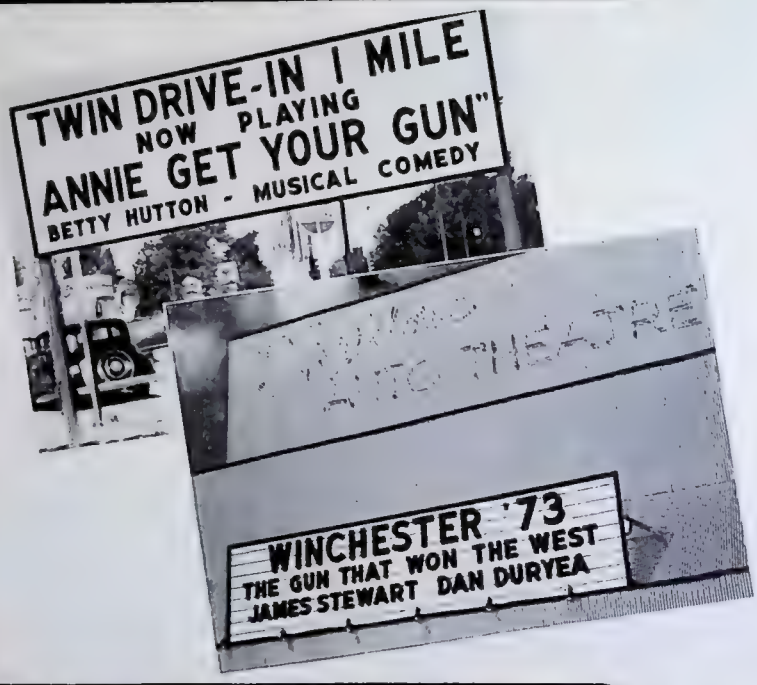
WAGNER MASTER MULTIPLE FRAMES

These frames employ a series of stainless steel bars, spaced on 7" centers, and accommodate any and all sizes of Wagner letters, since these letters are slotted with uniform spacing. (An exclusive patented feature.)

In the "39" type the frame inserts in a channel at top and bottom. It has no drain flange. In the "41" type the frame inserts in a ¾" wide by 1½" deep channel at top and has a drain flange which sets over rail at bottom.

Wagner Sign Service, Inc.
218 S. Hoyne Avenue
CHICAGO 12, ILL.

WAGNER ENDURONAMEL PANELS FOR DRIVE-INS



A high-quality, low-cost changeable-copy display for drive-ins. Consist of a series of best-grade, 18-gauge, stamped-steel panels, seven inches high, that comprise both the background and letter-mounting arrangement. The uprights are of 18-gauge metal, galvanized after fabrication. The unit also includes an attractive 2" border which is an integral part of the background, and easily attached end pieces. Finished in a newly developed baked enamel which by long, exhaustive tests has proved to be chip-proof, shock-proof, alkali-resistant, and salt-spray resistant. Two-thirds the cost of porcelain enamel. Highly effective by daytime, they may also be illuminated by floodlights, spotlamps, gooseneck reflectors or fluorescent tubes.

Letters mount directly on the face. Water and soot drain to the rear of each panel. Practically self-washing, and always of uniform cleanliness. The openings between the panels permit high velocity winds to pass through.

Any lengths, in multiples of 5 feet. Any height, in multiples of 7 inches, starting at 20 inches.

Quickly assembled and installed.

WAGNER TAPER SLOTTED COLORED PLASTIC LETTERS

The easiest changed of all letters. The new-type, tapered slotting (Pat. Pending) causes the letter to "lock" on the bar and not be disturbed even by high winds.

Wagner's slotted method of mounting prevents freezing to the sign. The widest range of sizes and colors. Available in 4", 6", 8", 10" and 17" sizes in red, green, blue, amber and black. Gorgeously brilliant when light shines through them, they also assume sharply silhouetted third-dimensional effect by day.

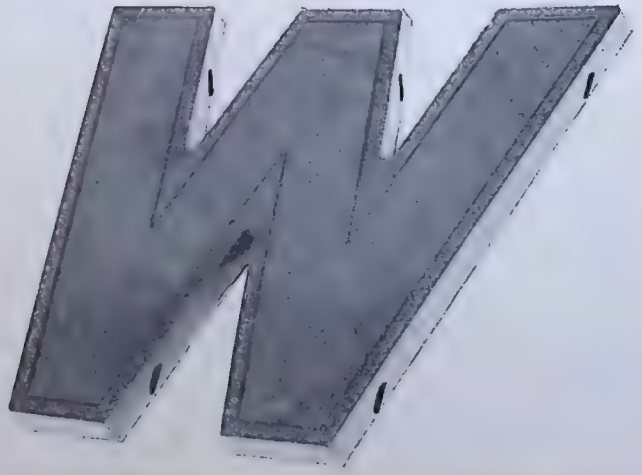
The non-fading, jewel-like colors go all the way through the letters, hence cannot chip or scale. Furthermore, these strong, durable letters never require painting or other maintenance. Wagner letters are the only plastic letters that can be stacked for storage without danger of warping.

Don't permit a shortage of letters, or old-fashioned letters, to spoil your front. If you have all one size and style letters, get some of the new letters, especially the larger sizes that shout.

Lay out your copy in an attractive, interesting and effective manner.

Wagner has made it possible for you to order a minimum font of changeable letters on your original order and subsequently purchase additional letters for each change of copy until you have an adequate stock on hand. By so purchasing, most of the letters are legitimately chargeable as advertising material for the feature for which they are purchased.

This convenient service, and the important savings which result from ordering only those letters you actually use, is made possible by the establishment and maintenance of ample stocks of letters in leading theatre-supply stores in most film centers.



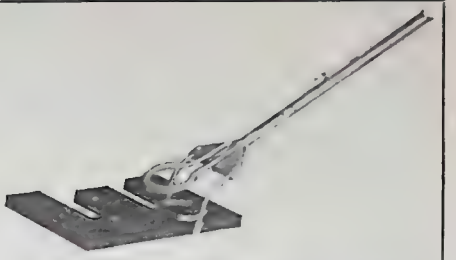
Wagner Sign Service, Inc.

218 S. Hoyne Avenue

CHICAGO 12, ILL.

MECHANICAL "HAND" LETTER CHANGER

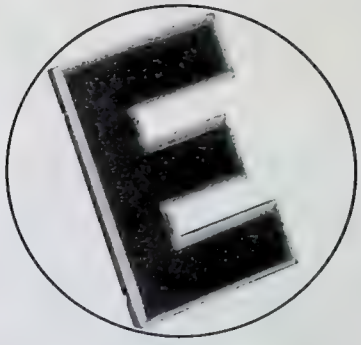
A mechanical "hand" which can be used only with Wagner letters, facilitates the servicing of high panels, particularly those which heretofore could not be changed without the use of ladders. This "hand" firmly grasps the letter and removes it or places it straight on the sign face by use of a tensioning lever at the end of the handle.



10-ft. length (for signs with top row up to 16 feet)....$27.50
14-ft. length (for signs with top row up to 20 feet)....$30.00
F.O.B. Oklahoma City

WAGNER SLOTTED ALUMINUM LETTERS

Wagner aluminum letters are slotted with uniform spacing so that ANY and ALL sizes can be used on Wagner Frames. This is an exclusive, patented feature. Available in the widest variety of colors, finishes and styles and in more sizes than offered by any other line. Solid-color, cove letters and colored or aluminum cove-edge letters are made in 4", 8", 10", 12", 16", 24" and 30" sizes. Gothic letters in 6", 8", 10" and 12" sizes, and poster letters in 8" and 10" sizes.



WAGNER FLEX-WORD FRAMES

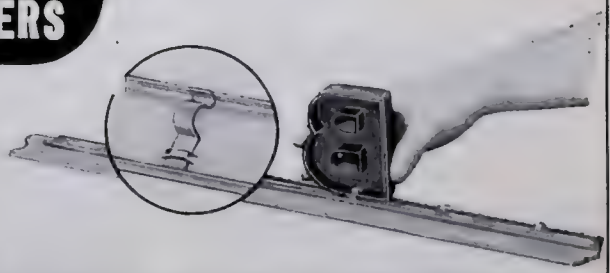
These miniature frames mount on standard Wagner Frames of 7-inch bar spacing and provide for the easy forming of less important words with 4-inch letters. They permit better use of space and make word-plates unnecessary. Letters can be staggered in three lines, or two straight lines can be used in a space that ordinarily accommodates one row of 10" letters. Available for either straight or curved attraction boards, and in horizontal lengths of 8", 12", 16", 20" and 24".

WAGNER COLOR-LITE TRANSLUCENT PLASTIC LETTERS

For indoor use. They pick up indirect lighting, appear to be lighted. 4", 6", 8", 10" and 17" sizes in red, blue, green, amber and black.

These letters can be set up on narrow ledges, and many places where no other display equipment can be used, by means of Wagner stainless-steel mounting strips which have clips for holding letters in position.

Drilled for mounting with nails or screws onto any cove, sill or other wood foundation, these mounting strips can be placed on a top surface and the letters mounted in the "standee" position, or the strips can be fastened on an under surface and the letters used in suspended position.

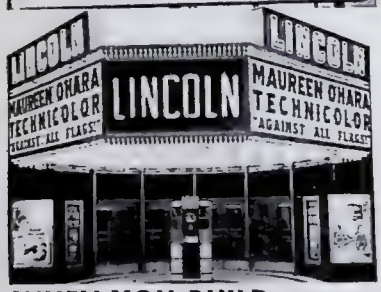


Wagner Sign Service, Inc.
218 S. Hoyne Avenue
CHICAGO 12, ILL.

AN **ADLER** EXCLUSIVE

FOR YOUR MARQUEES & ATTRACTION BOARDS

Airline Drive-in at Jefferson Parish, La., combines Adler 17" and 10" 3-D Letters for an attractive marquee. Similar combination is used (below) by Lincoln Theatre, Decatur, Ill.



3-D CHANGEABLE LETTERS

Give your signs the terrific impact of **3-D** by using ADLER 'THIRD DIMENSION' 2-TONE PLASTIC LETTERS. The 17" Lok-Lip 2-Tone Plastic Letter and the 12" 2-Tone Plastic Letter are available in brilliant colors that bring vivid, compelling brilliance to every display. They can be used interchangeably on the same frames with all popular Third Dimension Cast Aluminum Letters, in 4"-8"-10"-12"-16"-24" sizes. Adler offers you a complete selection of Third Dimension Letters, ranging from 4" to 24"

—backed by this GUARANTEE: ***For Every Adler Cast Aluminum Letter You Break, We Give You A New One FREE.***

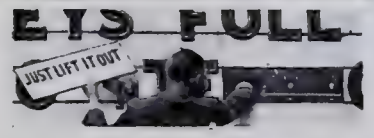
Adler Display at Recent TESMA and Allied Convention.

Get the Full Story of Successful, Profitable Adler Displays! Call Your Distributor or Send for Free Adler Catalog.

WHEN YOU BUILD, REMODEL OR MODERNIZE

You'll Find It Pays... To Use Adler Displays

Exclusive REMOVA-PANEL GLASS-IN-FRAME UNITS



Save on maintenance and cut labor costs with REMOVA-PANELS. Cleaning, repair and replacement are done anywhere in the sign without lifting out large, heavy frame units with glass. Patented by Adler.

STAINLESS STEEL GLASS-IN-FRAME UNITS

Strong, Rigid, Safe—Adler Locked-In-Line Frames of 18-8 Stainless Steel are unsurpassed for signs of ANY HEIGHT OR WIDTH. Always in perfect alignment so letters slide freely; delivered to the job completely glazed with opal glass, ready for installation. Curved and mitred frames can be made to fit any opening.

LOW-COST 'SECTIONAD' DISPLAYS

DELIVERED COMPLETELY ASSEMBLED AND READY TO INSTALL, this is the most economical Changeable Letter Display and is ideal for Drive-In Theatre approach signs. Background is Porcelain Enamel Steel, with Stainless Steel letter bars, positioned to hold letters of all sizes. No wearing, rubbing or chipping, as letters do not touch porcelain background. Available in any height, any length.

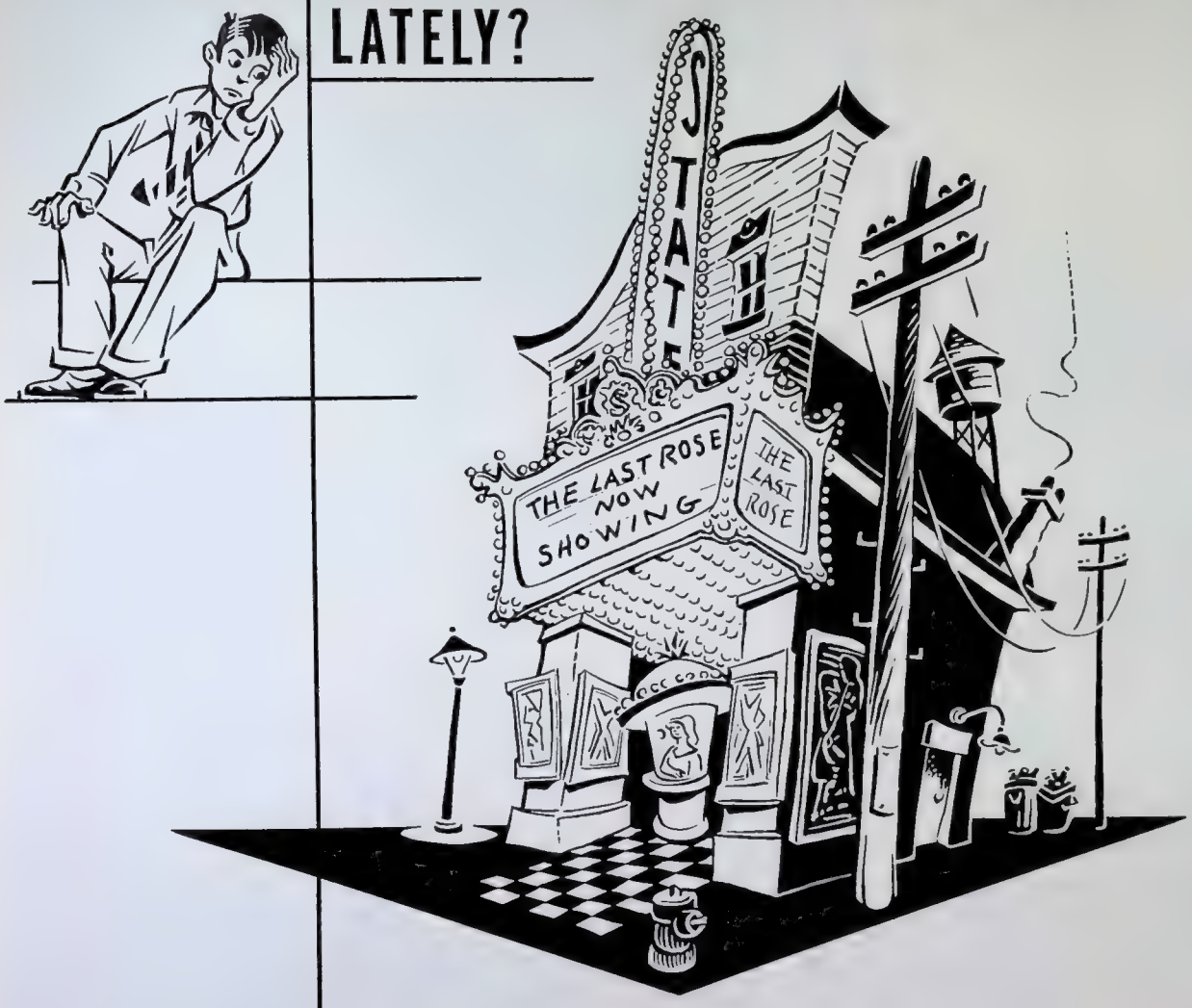
ADLER SILHOUETTE LETTER CO.

- **Los Angeles** 11843 West Olympic Blvd., Los Angeles 64.
- **Chicago** 3021 West 36th St., Chicago 32.
- **New York** 1451 Broadway, New York 18.

Other offices in Toronto, Canada, and London, England.

ADLER EQUIPMENT IS FIRST CHOICE OF LEADING CIRCUITS AND INDEPENDENTS ALL OVER THE WORLD

HAVE YOU LOOKED AT YOUR MARQUEE LATELY?



It *pays* to keep an eye on your theatre marquee — *where ticket sales begin!* YOU KNOW IT'S RIGHT IF IT'S

BEVELITE!

DISTRIBUTED BY

THEATRE **NATIONAL** SUPPLY

BEVELITE

PLASTIC LETTERS

A PRODUCT OF **THEATRE SPECIALTIES, INC.** 1615 CORDOVA ST., LOS ANGELES 7, CALIFORNIA

AMERICAN MAT CORPORATION

"America's Largest Matting Specialists"

1721 ADAMS STREET • • TOLEDO 2, OHIO

In Canada: American Mat Corporation, Ltd., Canada Trust Building, Windsor, Ontario

A Complete Line of Floor Matting

For Promoting Safety • Providing Comfort • Reducing Fatigue • Furthering Sanitation

AT ALL POINTS IN THE THEATRE

PROTECT YOUR CARPETS WITH

DO-ALL ALL-PURPOSE RUBBER AND CORD MATTING

Comes in rolls 20' 5" long, comprised of 35" x 35" units of four 17-inch square sections. Easily cut to any desired size. Beveled edges. Hugs the floor. Ideal for entrance, lobby and foyer.

4 MOTTLED COLORS

• Venetian Red • Erin Green

• Delft Blue • Mosaic

PREVENT ACCIDENTS AND LAWSUITS

Provide a non-slip surface at entrances and in rest rooms by using . . .

AMERICAN COUNTER-TRED FLOOR MATTING

ALSO IDEAL FOR USE BEHIND CANDY COUNTERS AND AROUND POPCORN MACHINES

The resiliency of the mat affords comfort underfoot and reduces fatigue.

American Counter-Tred is exceptionally tough and long-wearing under heaviest traffic. It is made of cotton cord bound together with rubber compounds.

The ridged bottom affords aeration and drainage. Rolls up for mopping of floor. ⅜" thick. Two feet wide. Any length.

FOR A BEAUTIFUL LOBBY

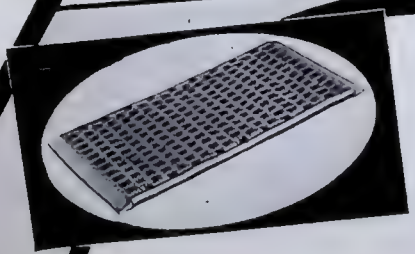
EZY-RUG COLORED RUBBER LINK MATTING

The original colored rubber link matting. Better known because it's better made of new—not scrap—rubber.

It is without question the best matting for trapping dirt at entrances. Pressure of the foot causes the patented corrugated links to scrape the dirt from the shoes of traffic and trap it in the openings, out of sight. Prevents tracking into the theatre and onto carpets. Reduces cleaning costs and frequency of redecorating necessitated by dirt whirled into the air by heating and cooling systems. Rolls up for easy, quick removal of dirt. Eliminates dangers of wet, slippery floors. Safe even with high heels. Non-trip beveled edge. Comfortable to walk on. The links are woven on galvanized, rust-resisting spring steel wire. Ezy-Rug will not curl, is easily handled and quickly cleaned. Ezy-Rug comes in any shape and any length, in widths up to 8 feet. Your choice of design, pattern, emblem, or lettering in any combination of four colors: brick red, light brown, grey and dark green, on a black background.

TRAFFIC-TRED PERFORATED CORRUGATED MATTING

Especially designed for use as a low-priced mat for removing dirt, moisture and grime from the soles of shoes. It is a particularly good mat for use where there are wet floor conditions. Made from cotton cord and rubber compounds, the mat has a ridged undersurface which affords aeration and drainage. New cross-ribbed squeegee design on the top side. 7/16" thick. Standard semi-closed (open on ends only) slot construction. Three widths, 24", 36" and 48" with sections 24" x 12", 36" x 18" and 48" x 12" (2-24" sections) available in rolls.

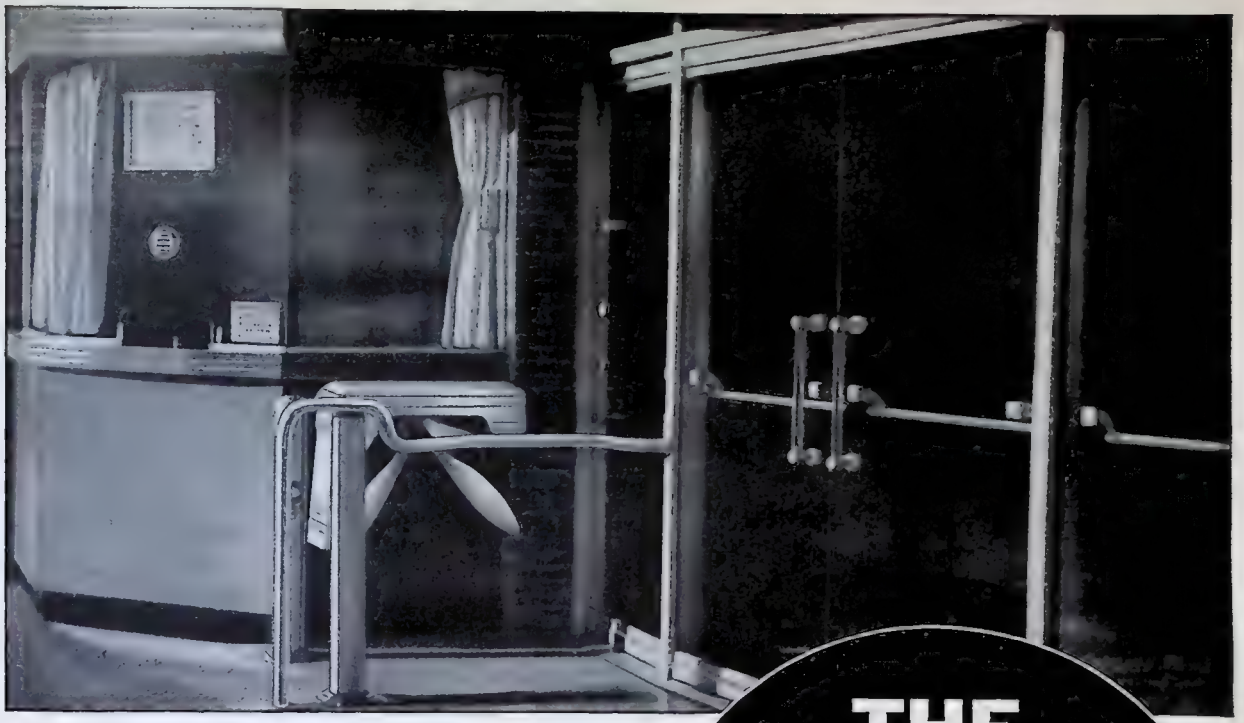


FOR BACK OF COUNTERS

TUF-TRED CORDED RUBBER MATTING

The most popular low priced safety matting. Constructed of corrugated rubber fabric links, strongly laced on galvanized rust-resisting steel wires, reinforced by metal plates and clips. Long wearing. The only mat of its kind equipped with non-trip beveled safety nosing on the ends. ⅝"thick, up to 6' wide, any length.

WRITE FOR FREE LITERATURE AND PRICES



NO DOORMAN REQUIRED HERE

THE PEREY "Magic Barrier" TURNSTILE SYSTEM

When You Install a Perey Theatre Turnstile you get more than just a machine. You get the benefit of operating your box office efficiently without the ticket taker or tickets.

The Cashier collects the admissions and the Perey Turnstile checks the cashier by means of a register in the turnstile. No tickets are required as the turnstile register automatically counts each patron entering the theatre.

Simple Method of Operation. The box office is equipped with a Perey Theatre Type, Registering, Two-Way Turnstile under the control of the cashier. Patron pays admission charges to the cashier, then passes through the Perey Turnstile which automatically registers his admission. The patron is automatically guided from the box office to the entrance door by properly designed railings located so that the entrance passageway is always under the control of the cashier.

No tickets are required. The turnstile register checks against the cashier's receipts. No ticket taker is needed.

Where Rates Change *at different hours of the same day* — readings of the register are taken at the time the rate change goes into effect.

When There Is a Price Differential *between adults and children* — the turnstile is equipped with an extra register for child admissions. In addition, there is an overhead visual indicator which lights up when the child admission is registered, thus checking against any possible manipulation by the cashier of adult and child admission receipts.

Perey Systems Satisfy the Fire Department. Installations of the Perey Theatre Type Turnstiles are in operation in most of the large cities of the country where fire department rules are of the strictest. The Perey Application Engineers design the systems so that there are always as many Exits as required to satisfy the Fire Dept.

The Entrance is so designed that it takes a minimum of space and is located in such a way as not to interfere with an Exit. In fact, the entrance becomes an additional exit in case of emergency. The Perey Theatre Type Turnstile is always of the two-way passage type, permitting free exit in case of necessity.

PEREY TURNSTILE COMPANY

106 EAST 41ST STREET **NEW YORK 17, N. Y.**

Wherever there is a theatre, there is need for SEALUXE theatre Display frames, and other SEALUXE Accessories.

BUILD BETTER BUSINESS
Make your coming attractions more attractive.

EASY TO CLEAN
Permanent alumilite finish needs no painting or polishing. Merely wipe with a damp cloth now and then. No rot . . . no rust . . . no tarnish . . . no corrosion.

NO MAINTENANCE
SEALUXE Display frames have maximum strength and minimum weight. No binding, sagging or warping.

When you invest in Sealuxe Display Frames the First Cost is the Last Cost!

CLIP and MAIL TODAY!

Dept. B-3, UNIVERSAL CORPORATION,
6710 Denton Dr., Dallas 9, Texas

Sirs: Please send me your latest information on SEALUXE Display frames and accessories.

NAME_____

FIRM_____

ADDRESS_____

J. P. TRAVIS, *President*

Universal CORPORATION

6710 Denton Drive, Dallas 9, Texas

INTERIOR *and* AUDITORIUM

1953-54

How To Protect Your Floors

Proper Installation and Maintenance Procedures For All Standard Types of Floor Surfaces are Studied in Detail

BRIEF: *One of the most important parts of a theatre's structure is the floor . . . The surface must be attractive . . . fairly inexpensive . . . and long wearing . . . This article . . . with information supplied by Multi-Clean Products, Inc., gives a thorough account of the various types of floor surfaces . . . going into detail about the installation and maintenance procedures involved with each . . . as well as pointing out the individual advantages of each type of flooring surface.*

In addition to this . . . a discussion of the care and maintenance of carpets is also found . . . The proper method of shampooing carpets . . . which was developed after years of experience and trial . . . is thoroughly described . . . along with many hints and tips on the ways and means of getting the most out of your carpets.

There are three essential results to be achieved in the maintenance of floors, namely, wearing ability or working life, appearance, and safe footing. In order to get the best results at the lowest cost, it is important that proper floor maintenance methods be followed.

Your floors are a big investment and should be protected if you want to save money. They are subject to wear and unless properly maintained you may have to repair or even replace them long before it would otherwise be necessary. You can forestall costly floor replacements by applying the proper floor treatments, which will keep your floors wear-resistant and greatly lengthen each floor's working life.

Also your floors will always be cleaner and more attractive when the proper method of floor care is followed. The encouraging fact is that when floors are given the proper treatment, they are much easier to keep clean and sanitary. Thus, routine maintenance becomes much less of a chore. It is important to keep your floors safe to walk and work upon. Here again, proper floor maintenance methods must be considered in order to achieve the floor safety desired.

TYPES OF FLOORS

There is an easy, economical treatment for every type of floor. In this article six different types of floors are considered as to their characteristics, uses and installation, together with methods of care and maintenance that applies to each.

Asphalt Tile

Asphalt tile is composed of blended asphaltic and/or resinous thermoplastic binders, asbestos fibers, and inert materials such as fillers or pigments. These are thoroughly mixed by machine, formed under pressure while hot, and cut to the desired size. There are three types of asphalt tile—standard, grease-proof, and acid-resisting. Grease-proof asphalt is resistant to animal, mineral, and vegetable greases, and to alcohol, alkalies, and mild acid solutions. Acid-resisting asphalt tile is formulated for laboratory floors and other areas exposed to chemicals.

Advantages—Asphalt tile is economical and is quickly and easily installed. Requires no expensive sub-base and in many instances may be laid over existing flooring. It has a low alteration and replacement cost, an important factor when the flooring selected must adapt itself to remodeling, etc. Asphalt tile is available in a wide range of patterns and colors. It is tough, durable, and long wearing, with excellent resistance to abrasion. It is resilient and comfortable under foot, resistant to moisture and fire, and easy to maintain, requiring only a minimum amount of attention.

Installation and Maintenance—In laying asphalt tile, be sure that the subfloor is smooth, sound, firm and free from springiness. After installation new asphalt tile floors should have a rest

THE FLOOR IS ONE of the most important parts of a theatre building. It is extremely important that they are given the type of care that will preserve beauty with minimum maintenance costs.

period of four to five days, to allow the tile to set firmly before the floor is put into use. The floor then should have a thorough cleaning. Use a safety cleaner and a floor machine or scrubber with a scrub brush or steel wool disc to remove any oil-like film, or other foreign matter from the surface. Rinse with clear water. Both the scrub and rinse water can be easily picked up with a wet-dry vacuum.

When the floor is dry after its initial cleaning, two thin coats of an anti-slip waterproof floor wax should be applied for a safe, attractive and long-lasting resilient finish. After the floor has been allowed to cure from four to six months, all old wax should be stripped off and one coat of asphalt tile preserver applied. The floor can then be rewaxed.

The information just given is the preferred method of treating new asphalt tile; however, if desired, asphalt tile preserver may be applied as soon as the floor is laid and after giving the initial cleaning. As stated before, waxing is optional after treatment with the tile preserver. The materials are easily applied with an applicator or short-stringed mop. After the last coat is dry, finish by polishing with a floor machine. Some floors are more porous than others and will look their best with an additional coat of wax. Care should be taken to insure complete drying of each film before succeeding coats are applied.

Since asphalt tile is subject to indentation, movable furniture placed on this flooring should be equipped with special non-denting casters. If the furniture is stationary, it should be fitted with furniture rests to distribute its weight over a wider area of contact with the floor.

Reconditioning Old Tile—When asphalt tile has deteriorated or faded in color because of faulty or inadequate maintenance, and replacement is impractical, the following procedure is recommended to restore its appearance and serviceability. Prepare the surface for treatment by cleaning it thoroughly. Rinse the floor and after it is completely dry, including the joints between the tiles, a thin coat of asphalt tile preserver should be applied. This will restore color and beauty to the tile. The porosity of the floor is also reduced, minute scratches which detract from the floor's appearance and make maintenance difficult will be made smooth by this treatment. A coat of anti-slip floor wax may be applied over the preserver for additional protection.

General Maintenance Procedure—Asphalt tile protected by a tile preserver and/or anti-slip waterproof floor wax, will require only dust mopping or vacuuming, and occasional buffing with a machine to keep it clean and attractive under normal use. When conditions require, it may be damp mopped with clean water, or washed periodically with water and a cleaner. Be sure moisture is promptly removed from the floor surface after washing and rinsing. Buffing with a No. 1 steel wool disc will help restore a high lustre to the floor.

Periodic buffing with a floor machine, using a steel wool disc, will reduce sweeping time, increase durability of the surface, and reduce the frequency of applications.

Occasionally, when there is heavy traffic, dirt may become so deeply imbedded that the preserver or wax film does not respond to the buffing treatment. When this condition exists, it is best to remove all the accumulated material and start with the bare tile. To accomplish this, the cleaning procedure is similar to that for new asphalt tile described before.

Some Do's and Don'ts—Never use varnish, wood floor seals or spirit waxes on asphalt tile. The solvents used in these floor finishes are also solvents for asphalt tile, and will soften and ultimately break down the tile. Oils, fats, and all mineral solvents will soften standard asphalt tile.

Do not sweep standard asphalt tile floors with sweeping compounds containing oil or petroleum distillates. Use of these compounds will break down the structure of standard asphalt tile by chemical action.

Avoid excessive use of water on asphalt tile. If water is allowed to remain on it too long, it may seep between the joints separating the individual tiles and work underneath, loosening the tile from the subfloor.

Avoid the use of alkaline or caustic cleaners; in a short time they may cause damage beyond repair.

Worn spots or heavy traffic areas should be resealed or rewaxed whenever necessary. This saves treating the whole floor area and keeps floors safer and more attractive at all times.

Concrete Flooring

A concrete floor is made from Portland cement, sand, gravel, and water, which are combined in varying proportions according to the requirements of the floor. Concrete flooring may consist of the slab itself troweled smooth in its natural color, or the slab may serve as a subfloor for another layer of concrete, which may be natural colored, integral colored, or dust-on colored.

Concrete is one of the most durable fireproof, moisture-resistant, and longest-lived floorings available. It is low in cost, and the materials used in it are available almost everywhere. The ability of concrete to carry great weights has made it by far the most popular material for flooring where the traffic load is heavy. A concrete floor also serves as reinforcement; it strengthens the entire building structure. Concrete may be made to include various desired qualities which meet the special needs of the individual application. For example, its structural strength, durability, water resistance, and other qualities may be varied by making

ASHPHALT TILE IS economical and is quickly and easily installed. It requires no expensive sub-base and in many instances may be laid over existing flooring. It requires only minimum attention.

CONCRETE IS ONE of the most durable and longest-lived floorings available. It is low in cost and the materials used in it are available almost anywhere. Ability to carry loads makes it popular.

changes in the materials or proportions of ingredients used, and by making modifications in the procedure for producing the concrete.

Installation and Maintenance— Concrete floors demand careful selection of materials, expert supervision and skilled workmanship in their installation. Finishing operations are particularly important, to provide the proper floor surface. For these reasons, the floor should be planned by an architect and installed only by a qualified contractor familiar with the recommendations of the Portland Cement Association.

The new floor should be scrubbed thoroughly, and it is advisable to apply concrete finishes which clean and harden, thus protecting the floor surface against dusting. pitting, and cracking. Where a fast-drying, highly resistant finish is desired it is recommended that a rubber base treatment be used for areas where excessive alkali, or grease conditions prevail.

Reconditioning—The appearance and serviceability of old concrete floors, with the exception of those having a defective top surface, may be improved by proper reconditioning methods.

If there is any wax on your floor it should be removed, and after the floor has been thoroughly cleaned and dried the proper concrete finishes should be applied. An economical and time saving method of cleaning unwaxed floors is to use a concrete hardener and etcher as the cleaning solution. By this method the cleaning and etching can be done in one operation, saving both time and materials.

General Maintenance—Concrete floors protected by concrete finishes will require only dust mopping or vacuuming, and an occasional buffing with a floor machine to keep them clean and attractive under ordinary conditions. When required, the floor should be washed with a safety cleaner and water. Rewaxing should be complete as required, with care being taken to insure that the floor surface is clean before additional wax is applied. The use of wax is not recommended where oil or grease are present. Periodic buffing with a floor machine and polishing brush will reduce sweeping time, increase durability of the wax film and reduce the frequency of wax applications. Occasionally, where there is heavy floor traffic, dirt may become so deeply imbedded that the wax film does not respond to the buffing treatment. When this condition exists, it is best to remove all the surface accumulation. The floor should then be rinsed with clear water. After the floor has dried. it should be treated with two coats of floor wax.

Some Don'ts—Do not use oil-type sweeping compounds on waxed concrete floors.

When soaps are used in cleaning either treated or untreated concrete floors, they always should be rinsed thoroughly with clear water to avoid leaving a slippery surface.

Terrazzo

Terrazzo is a composition material, made up of marble chips or other aggregates combined with cement. This mixture, or "matrix" is applied as a plastic mass to an underbed of concrete, and is spread to form a layer of about ⅝-inch thickness. Colored pigments are often added to the matrix, to provide a variety of color effects.

Terrazzo is fireproof, and is one of the most durable flooring materials. Unless abused, it rarely needs replacement or repair, once it has been installed properly. It is also notable for its ability to withstand heavy traffic without showing signs of wear. While the initial cost of terrazzo may be higher than that of some other floor materials, its exceptionally long life and splendid service bring its over-all cost to a low figure.

Capacity to withstand heavy weights is a characteristic of terrazzo floors. The brass strips used in its construction are not used for decorations alone, but also provide reinforcement which enables this flooring to resist strains and stresses commonly developed in buildings. These brass strips also act as conductors of static electricity, a feature which makes terrazzo particularly desirable for installation in places where combustible materials are found.

Because of its pattern, terrazzo does not readily show soil or even a limited amount of litter, and stays presentable longer than floors of one color, making it ideal for public buildings such as theatres, where floor traffic is heavy. Ease of maintenance is another advantage of terrazzo. Only sweeping, dust mopping, or vacuuming are required for its daily care. It also may be cleaned satisfactorily by damp mopping. Periodic buffing with a floor machine will enhance the beauty of terrazzo floors.

Installation and Maintenance—Only a competent, experienced contractor should be considered for the installation of terrazzo flooring to insure a floor that will give long, trouble-free service.

After the floor has been installed and "cured" for about ten days, it is machine-rubbed or ground to produce a smooth surface, treated with a thin coat of cement grouting to fill any voids, allowed to dry, and is then ground by machine to remove any surplus material. A coat of liquid spirit wax, applied after grouting has set, but before final grind, will prevent loss of moisture and produce a more dense and durable floor after final grinding. When the grinding process is completed, the terrazzo should be thoroughly cleaned. Making sure that the floor is dry, the terrazzo should be sealed. One coat of sealer is usually sufficient, and will prevent the absorption of water and other foreign matter which might cause staining, and will provide protection against "dusting" of the surface. A good sealer will beautify and intensify

the depth of color of the matrix and chips, and will enhance the over-all appearance of the floor.

If desired, two thin coats of floor wax can be applied after the sealing. Use an applicator or short stringed mop. Be sure the first coat is dry before the second coat is applied. A terrazzo floor treated in this manner will have excellent anti-slip qualities, even after it is polished. It will also leave a protective coating that needs very little maintenance.

Terrazzo that has become scarred and pitted from caustic cleaners, or for other reasons, and dirt and grease have penetrated deeply, discoloring the surface and making effective cleaning impossible, can be restored to its original beauty and service by using a floor machine with a carborundum stone disc to grind the floor to a new, clean surface. Grind the floor by sections, taking two to four sections at a time. While grinding, keep the floor wet with clear water. Following the grinding operation, clean the floor and refinish it sealer and anti-slip floor wax as described before.

When properly treated terrazzo floors will require only dust mopping or vacuuming, or an occasional polishing to keep it clean and attractive under normal conditions. Water will be required only for stubborn stains, since dust and spillage will not stick to a treated surface. The constant use of water is not required when a terrazzo sealer has been applied. Not only does water leave the impression of a slippery floor, but if a soap is used that is not completely free rinsing, the scum remaining becomes an additional hazard and hides the natural beauty of the floor.

Rubber Tile

Rubber tile is a vulcanized natural, synthetic or combination rubber compound, cured to a sufficient density to avoid the possibility of creeping under heavy foot traffic. Pigments used for colored tiles are insoluble in water, and are fused with the rubber. Rubber tile is molded under high pressure to varying thicknesses. It may contain thoroughly dispersed reinforcing fibers, to a percentage as high as 25 per-cent rubber and 75 per-cent mineral compounds reinforced by cotton fibers. Some forms are made with a sponge rubber cushion laminated to the base.

This type of flooring is resilient and comfortable underfoot, and when properly maintained, it provides a long-wearing surface, and is easily kept clean by ordinary light sweeping and mopping. Rubber tile also has excellent sound-absorbing qualities. Its beauty is permanent, because the color goes completely through. It is available in high gloss finish and many designs, and it has fire-resistance to cigarette burns and is stain-resistant. Its high tensile strength resists indentation. A desirable feature is ease of installation. It may be installed in either sheets or tiles, and may be laid over old as well as new subfloors.

Installation and Maintenance—Rubber tile should be installed only by a qualified flooring contractor. It should not be installed over any floor that is in direct contact with the ground. For installation over wood subfloors, an underlayment of paper or felt paper is required.

After installation rubber tile should be rolled with a 150 pound weighted roller, and then inspected to make certain all air pockets have been removed. Remove any cement which may have worked up between tiles. The surface should then be cleaned and rinse cleaned with clear water and a mop. When the floor is dry, apply two coats of floor wax with an applicator. Allow sufficient drying time between coats. After second coat has dried it may be buffed with a floor machine, using a polishing brush or fine steel wool disc.

The daily maintenance, after the initial treatment, will be dust mopping or vacuuming, and occasional polishing or dry steel wooling, to keep it clean and attractive under normal conditions. The periodic buffing with a polishing brush or fine steel wool disc will greatly reduce sweeping time, increase durability of the wax film, and reduce frequency of rewaxing.

Users of rubber tile should take note of the following cautions: Rubber tile is sensitive to lower temperatures; it should be handled and stored at room temperature (70°).

Cleaners containing oils, grease, or harsh cleaning compounds should not be used on rubber tile.

Sweeping compounds containing oil should not be used as they will stain and soften the floor surface.

Spirit-type penetrating sealers or waxes will soften and stain rubber tile and should not be used.

Never use harsh buffers on rubber tile, and do not buff it severely. Overbuffing breaks down the surface and tends to make it porous.

To guard against indentations by heavy objects, provide special dent-proof casters or rests.

Wood Flooring

For centuries wood floors have been universally favored for use in homes, institutions and public buildings. Hardwoods are most commonly used, i.e., oak, maple, beech, birch, etc. Wood floors may be laid in many forms and patterns to meet specific requirements.

The durability of wood flooring has been an important factor in its wide application for institutional installations.

TERRAZZO IS ONE of the most durable flooring materials. Its ability to withstand heavy traffic without showing wear is one of its best features.

Wood floors, properly maintained, will last a lifetime and longer. They will withstand heavy traffic with very little deterioration. They possess a tremendous advantage in that they may be restored to their original surface condition and appearance with comparatively little effort and expense. Physically, wood is a resilient material which has exceptional structural strength and high insulating value.

Beauty of appearance has always been an important factor in the selection of wood for floors. Its inherent richness and mellowness has made it a universal favorite.

Installation and Maintenance—Excellent service and complete satisfaction can be expected from wood floors when several fundamental precautions have been established.

1. The species of wood selected, the grade, dimensions, and other special characteristics should all be chosen with the advice of an architect or qualified flooring contractor.

2. The subfloor and other construction fundamentals must be related to the function of the finished floors.

3. A maintenance method must be followed which will retain the advantages of the wood floor through a sound, simple, and economical plan. Such a program instituted at time of installation will result in great savings and convenience.

Wood is a product of nature. The tree's growth is directly dependent upon the passage of great quantities of nutrient water through its constantly expanding cellular plant. Wood is, therefore, a naturally porous product. Since prolonged natural and kiln drying are necessary before it can be used, it becomes capable of absorbing and retaining even greater quantities of moisture and foreign materials.

Sanding—A satisfactory sanding operation must perform three functions: (1) level abutting strips or sections; (2) level adjoining strips or sections; (3) provide a smooth, level surface to which treatment may be applied. All sanding jobs should be free from scratches, stop marks, edger lines, and scraper pulls. Final sanding should be done with a floor machine equipped with a sanding disc utilizing a No. 1/0 or finer paper. Better results are obtained when a No. 2/0 is used for the final cut.

After sanding has been completed, the floors should receive two coats of sealer or floor preserver. Two coats of floor wax should then be applied to assure a smooth, attractive and easily cleaned surface. For greater floor protection, many users put down a coat of spirit wax before applying the two coats of waterproof wax.

One of the foremost advantages of wood floors lies in the fact that neglected and deteriorated floors can in many cases be restored to a pleasing appearance and renewed serviceability. This can be accomplished by one of the following methods, depending on the condition of the floor.

1. By regular maintenance methods if the floor is in good condition and well sealed.

2. By stripping the sealer and varnish if the floor is discolored by too many coats, but not in such a condition as to require sanding.

3. By sanding if the floor is in such condition that it requires a complete new surface to start the reconditioning process.

Wood floors protected by floor finishes and covered with a protective film of waxes, will require only dust mopping or vacuuming, and an occasional polishing or steel wooling to keep them clean and attractive under normal conditions. The periodic buffing with the floor machine and brush or steel wool disc will greatly reduce the frequency of wax applications.

Where special traffic conditions make it necessary, floors may be washed periodically with a diluted solution of safety cleaner, provided that the solution is promptly removed from the floor surface after washing and rinsing. Rewaxing should be completed as required with care being taken to assure that the floor surface is clean before additional wax is applied. If traffic wears through the wax film and comes in direct contact with the sealed surface for a prolonged period of time, this area can be cleaned and resealed without showing patch or lap marks.

Use a minimum amount of water to maintain wood floors. Excessive water may enter wood through the ends and cause swelling or warping.

When floors are set in mastic, exercise extreme care in the use of sealers, spirit waxes, petroleum solvent cleaners and water.

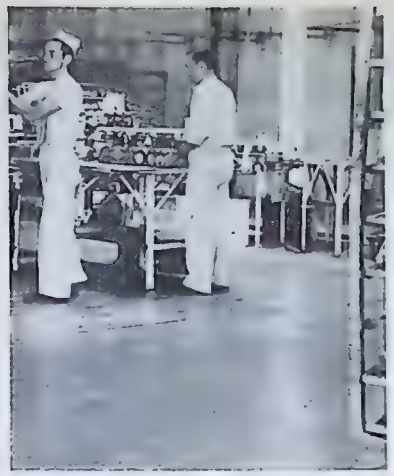
Select a maintenance method which eliminates or minimizes the necessity for resanding.

Wood has advantages as a flooring material which can not be fully enjoyed until they have been aided by further treatment of the floor. After a wood floor has been properly installed, its life, appearance, and service are determined by the user—by the kind and extent of preparation and maintenance that are provided. No other type of floor so distinctly reflects lack of proper care, and no other type of floor responds so beautifully when that care is provided.

Linoleum

Linoleum is usually made from a mixture of solidified linseed oil with gums, combined with cork dust and/or wood

RUBBER TILE IS A resilient and comfortable material that has fine sound-absorbing qualities. It can be kept clean by ordinary light-sweeping.



WOODEN FLOORS WHEN properly maintained will last a lifetime and longer. Its inherent richness and mellowness has made it a favorite.

flour, and pigments, applied to a canvas burlap, or felt backing, and pressed into sheets between heated rollers.

Linoleum comes in rolls, usually six feet wide and in varying thicknesses and guages. It also is available in tile form.

Installation cost is minor, and when replacement becomes necessary new linoleum is laid quickly and easily. Linoleum is very flexible and pliable, and will conform to minor variations in the underfloor's surface, although such variations usually produce worn spots in time. It provides a quiet floor and is comfortable underfoot, which makes it particularly desirable for establishments where people must be on their feet for long periods of time. It is dense and resilient, with a high resistance to abrasion.

Available in an extremely wide range of colors and patterns, as well as in grades scaled to meet varying budgets, linoleum is an attractive and deservedly popular floor covering. Recent developments in pigments, especially in reds and blues, now have overcome the discoloring of linoleum previously caused by the alkaline action of many soaps.

Installation and Maintenance—While linoleum is not difficult to install, it is desirable to have an experienced floor contractor do this work. After the floor has been laid and rolled, it should be allowed to set for several days, before treatment, to insure a firm surface. All linoleum manufacturers recommend waxing, since wax fills the pores, making the surface more resistant to moisture and stains, and greatly simplifying cleaning.

New linoleum often has an oily film on the surface, which must be removed so that the wax will cover evenly. To remove dirt and the oily film, clean the surface, and after cleaning apply a clear water rinse. When the floor is dry, two or more coats of anti-slip waterproof wax should be applied for a safe, attractive and long-lasting resilient finish. The wax is easily applied with an applicator or short-string mop. Each coat will dry in approximately 30 minutes. After the last coat is applied, polishing with a floor machine will give added lustre and a longer wearing wax film. Some floors are very porous and may require several more wax coatings to produce a smooth, attractive surface. Care should be taken to insure complete drying of each film before succeeding coats are applied.

Since linoleum is subject to indentation, movable furniture placed on this flooring should be equipped with special non-denting casters. If the furniture is stationary, it should be fitted with furniture rests to distribute its weight over a wider area of contact with the floor.

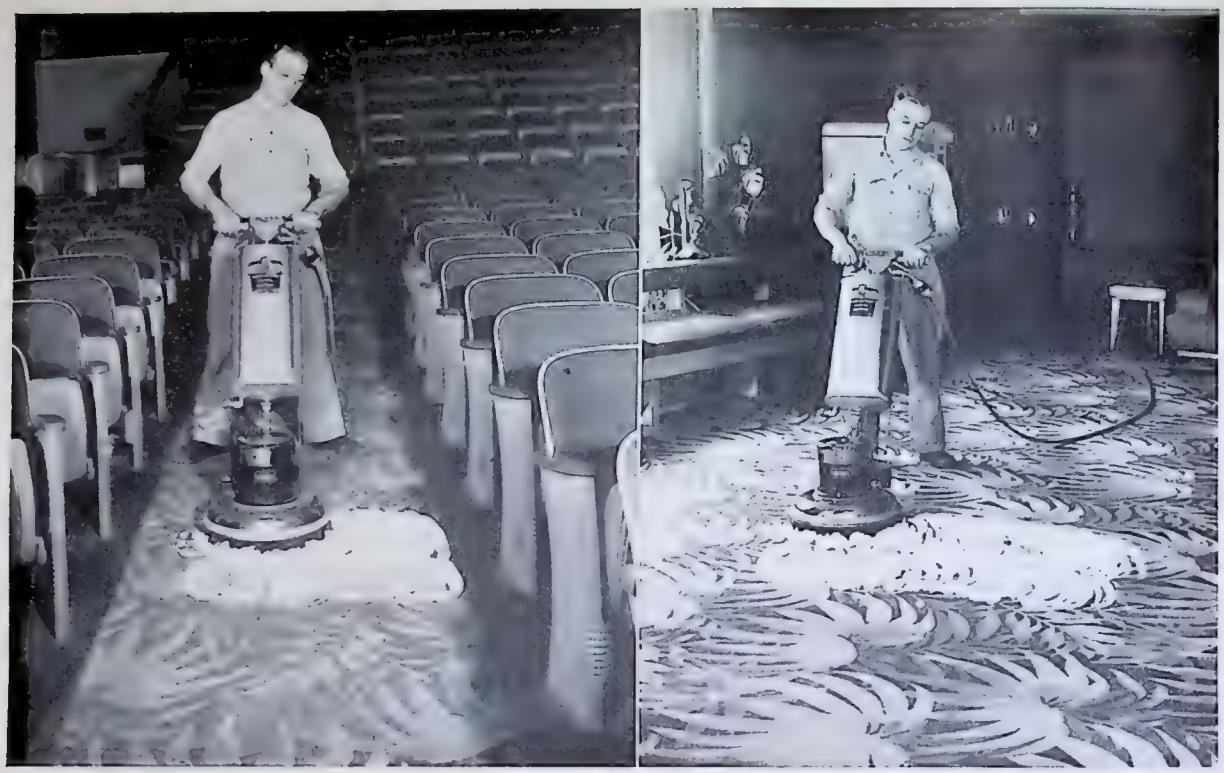
When linoleum has deteriorated or faded in color because of faulty or inadequate maintenance, and replacement is impractical, the following procedure is recommended to restore its appearance and serviceability. Prepare the surface for treatment by cleaning it thoroughly. After the floor is dry, including the seams, a coat of asphalt tile preserver should be applied. This will restore color and beauty to the floor. The porosity of the floor is also reduced, and minute scratches which detract from the floor's appearance and make maintenance difficult will be made smooth by this treatment. Two coats of wax will increase the lustre and wearability of the floor.

LINOLEUM HAS A minor installation cost and is laid quickly and easily. It is very flexible and conforms to minor variations in floor surface.

Floors already in use may be treated much the same as new linoleum, following the same cleaning and application instructions described. Linoleum protected by anti-slip floor wax will require only dust mopping or vacuuming, and an occasional polishing to keep it clean and attractive under normal conditions. If desired, it also may be washed periodically with water and a safety cleaner, provided the moisture is removed from the surface after washing and rinsing.

Never use a harsh alkaline cleaning agent on linoleum. Excessive alkali will combine chemically with the oil used in making linoleum, to form a soap-like mixture which breaks down the structure of linoleum. More linoleum is "washed out" than wears out. Another thing to be avoided in the care of linoleum is the excessive use of water, as it may seep underneath and loosen the linoleum from its backing. Hot water should never be used as it is injurious to linoleum floors. Care should be exercised in buffing. Harsh brushes should not be used, nor should buffing be carried to the degree of rubbing off the surface. Penetrating seals or varnishes should

WHEN SHAMPOOING CARPETS YOU (1) vacuum thoroughly. If dirt or mud is heavily caked in the pile, it should be broken by brushing it. Then (2) test the colors for fading, dry rot, stains or any moth damage. Irregularities of any kind should be noted before shampooing is started. Next, (3) determine the pile direction by rubbing with your fingertips. It's important that the shampooing machine should lay pile, not raise it.



WHEN CLEANING aisles (left) it is necessary to make shorter passes, from one side of the aisle to the other. In shampooing carpets (right) it's important to work so as not to injure the pile. It is a wise thing for theatre operators to see to it that their maintenance staffs are well acquainted with the machines, and how to properly operate them. This often saves time, tempers and money.

never be used on linoleum that is in good or fair condition. These solvent type finishes should be used only on linoleum that has deteriorated to such a condition that it will not respond to ordinary care.

CLEANING THEATRE CARPETS

Forward-looking theatre men recognize two marked advantages in regular, systematic cleaning of carpets. Both advantages reflect in the cost and profit aspects of theatre operation.

First, the appearance of a theatre's furnishings has a definite effect on box-office sales. Patrons are favorably impressed with a theatre with bright, clean carpeting and prefer it to one that has not.

Second, good carpet maintenance plays an important part in keeping operation costs down. Routine cleaning removes the dirt and grit that injures carpet's pile and prolongs the handsome appearance and service life of the carpet. The cost of cleaning carpets is, without doubt, far below that of replacing them.

It is recommended that two men, if possible, handle the carpet cleaning job. One man can operate the vacuum machine and do the hand-shampooing in areas not reached by the scrubbing machine. The other man prepares the solution and operates the scubber. If only one man is available, he should do the hand-shampooing after the first vacuuming and before the scrubber.

The Right Start

All carpeting should be thoroughly vacuumed before shampooing. If dirt or mud is heavily caked in the pile, it should be broken up by brushing vigorously with a dry, stiff bristle long-handled brush, then removed with the vacuum machine.

Immediately after vacuuming, make a thorough inspection of rugs for fading, dry rot, stains or moth damage.

THEN (4) ATTACH THE BRUSH to the rotator, then (5) you mix the solution properly. One gallon of solution should shampoo 80 to 100 square feet, depending on the pile depth. This is for hard water areas. In water with average softness, mix one part shampoo to 20 parts water. Finally (6) adjust your machine with the wheel carriage lowered until the brush is well lubricated with foam. After a careful check you are ready to begin.

Irregularities of any kind should be noted before shampooing.

There are three basic tests commonly used to determine the effect of certain shampoos on colors. (1) Rub a damp towel over the carpet. On a majority of materials you will find this test sufficient and colors unaffected, in which case you will be perfectly safe in using a quality shampoo preparation. (2) If the first test runs the colors, use a weak ammonia test solution-26 degrees. If colors are unaffected, a very mild alkaline solution may be used. (3) If colors run in the ammonia test, use a 28 per cent acetic acid solution. If the colors hold fast, a synthetic detergent with or without added sour should be used.

Determine Pile Direction—This is done by rubbing the pile with the fingertips. It is important because the machine, in completing each lap, should lay the pile, rather than raise it. To achieve this you must operate the machine against the pile, starting at the left corner and moving across to the right. Then, on returning from right to left to complete a lap, and because the brush revolves counter-clockwise, the forward edge of the brush will lay the pile properly.

Shampooing

For highly concentrated products add one part shampoo to 16 parts of lukewarm water. On this basis, one gallon of solution will shampoo about 80 to 100 square feet, depending on pile depth. These figures are for hard-water areas. In water with average softness, mix one part shampoo to 20 parts water and in soft water the ratio is one to 24.

In shampooing carpeting, it is important that you work in the proper direction with reference to the pile as previously mentioned. Select the proper "starting" left corner by facing in the direction whereby the pile lies from your right to your left. Remember, the brush rotates counter-clockwise, so raising or lowering the handle moves the machine to the right or left. Open windows a few inches top and bottom when commencing to shampoo; be sure the theatre is well ventilated unil carpeting has dried.

Streak-free Method—With a little practice you will be able to do an even, streak-free job. Correctly operated, the scrubber will contact the pile four times. In shampooing the first strip or top edge of the carpet, hold the machine so it hugs the top, assuring that you are shampooing the pile to the very edge. Low spots due to tacking can be reached by further raising the handle. Turn on the solution and hold scrubber until foam is thoroughly worked into the carpet. Now move scubber to the right over a path parallel to the edge of the rug. Turn off the solution when scrubber is approximately 18 inches from right edge of the carpet. Solution already released will flow down into the brush to complete the pass. For the return pass, return scrubber over the same path from right to left edge of the carpet with the solution turned off. Now repeat the procedure outlined to insure thorough cleaning of the top edge. Then lower the scrubber one full lap and proceed with solution pass number three.

On all subsequent laps, lower the scrubber one full lap at the left edge of the carpet for the next solution pass and raise the scrubber three-quarters of a lap at the right edge for the next return pass.

Cleaning Aisles—Since most aisles are too narrow to permit scrubbing on a plane from the lobby to the screen, it is necessary to make shorter passes, from one side of the aisle to the other. Such scrubbing often does not permit the operation of the scrubber in the correct relation to the direction of the pile. In such cases good results may be obtained by laying the pile while wet-vacuuming after scrubbing.

Immediately upon completion of shampooing with the scrubber, the pile should be brushed two ways, first up and then down. This can be done with a long-handled pile laying brush or with the vacuum machine's brush attachment. This reduces drying time considerably. If possible, avoid walking on the carpet until it is dry three to six hours.

It is important to vacuum the carpet carefully after it dries in order to remove sand and grit loosened by the scrubber and shampoo solution. Frequent vacuumings for seven to 10 days following shampooing will enhance the carpet's appearance.

Helps and Precautions

Shampooing under radiators in corners and other areas that cannot be reached by the machine, should be done first with a small hand brush. Particular attention should be given these areas because they are usually the dirtiest. Dip the brush in a pail containing shampoo solution and brush with a circular motion. When finished, throw away this solution; do not use it in the scrubber tank.

Extreme caution is required in shampooing twist weave pile surfaces in order to avoid removing the twists. Dilute shampoo solution one part concentrate to eight parts moderately warm water. Operate machine on a separate piece of carpet until the brush is thoroughly lubricated with foam, then work on twist weave surface, passing over surface rapidly. A warn brush or one with a softer fiber fill is recommended for use on twist weave carpets.

Sand and dirt in a carpet cuts the pile, causing a lint which very often goes unnoticed until the vacuum or scrubber dislodges it. When excessive lint is encountered, clean the filters and brushes frequently.

When possible, it is best to remove furniture before shampooing. However, furniture may be moved to one side while half of carpet is shampooed and moved into cleaned portion while doing the other half. If it is necessary to keep furniture on a damp carpet, place a piece of blotting paper, heavy cardboard or aluminum foil beneath each leg immediately. Any metal that rests on damp areas may cause rust stains.

CONCLUSIONS

The statement that in order to succeed in the motion picture theatre field it is necessary to start at the bottom, has a very practical application in the maintenance of a house. The floors, and materials that cover them, are an extremely important part of the decorative scheme. They help to establish part of the individual atmosphere that is found in every theatre. Because of this fact, every exhibitor who is thinking of putting new flooring or carpeting into his theatre, should give serious thought to what his needs are. This article has attempted to give assistance with this problem.

THE VACUUM CAN be used to great advantage on the carpeted steps of a theatre. Most of the models on the market today come with special attachments that make them ideal for the cleaning of seats, walls, etc. An investment in the right kind of cleaning equipment is worthwhile.

It's Easy To Floor-Clean Carpets

Proved To Be Highly Efficient and Economical, New Product Solves a Big Maintenance Problem

Probably no woven floor covering receives the severe day-by-day abuse to which theatre carpeting is subjected, and, unless it is cleaned properly and frequently, the carpeting that once lent bright color and beauty to the theatre soon becomes a dingy eyesore.

BRIEF: *Tramped over by hundreds of pairs of dirty shoes each day . . . theatre carpeting soon becomes a detriment to the beauty of the house . . . rather than the asset it should be . . . if it is not properly maintained. A new semi-moist cleaning compound called "Glamorene" has proved to be a valuable aid to carpet care. Containing chemicals of both a solvent and detergent nature . . . it emulsifies carpet soils . . . and carries them out of the pile. The new product even loosens insoluble sand and grit . . . making them easily removable . . . and is effective in removing chewing gum. Easily applied . . . and economical to use . . . "Glamorene" offers a practical solution to the problem of periodic carpet maintenance.*

Regardless of where the theatre is located, the floor coverings are certain to absorb a considerable amount of soil, part of which is carried onto the carpet by foot traffic and not removed by daily cleaning, and part being deposited by dust-laden air. This dust, natural gray in color, begins to collect the day the carpet is laid. When light colors are used where traffic is heavy, or where the air contains large quantities of greasy soot and dust from home furnaces and coal-burning industrial plants, the cleaning problem is a serious one. The grease and tar content of dirt particles, often as high as 10 per cent, causes them to cling tenaciously to the pile fibers, and even the daily use of an electric cleaner will not remove all of them.

This grease-laden dust will cause some discoloration in light colored carpets. For example, a delicate rose carpet, as it becomes soiled, will gradually lose its rose tone and change to a neutral taupe shade. A light blue carpet may change to a dull gray-green. Such apparent loss of color often causes alarm as it is mistaken for permanent discoloration or fading. However, the original color and tone can be restored most effectively by dry, absorbent type cleaners. Cleaning materials of this type have an important advantage over fluid cleaners: they do not leave a ring and therefore the contrast between the cleaned and uncleaned portions of the carpet is less noticeable.

The New Cleaner

A revolutionary new carpet cleaner of the absorbent type, trademarked "Glamorene," has been tested in theatres with outstanding results. Manufactured by Jerclaydon, Inc., the product is not a liquid, foam, jelly, or power, but a semi-moist compound that is reddish in color and has the consistency of snow.

The cellulose fiber base of "Glamorene" is thoroughly impregnated with highly effective cleaning chemicals, both of a detergent and solvent nature. The fiber base acts merely as a carrier in a dual role. First, it carries the chemicals deep into the pile of the carpet, where they immediately attack and emulsify all of the carpet soils, and are squeezed from the fiber by means of a simple and easy brushing action. Then the fiber becomes highly absorbent, again becoming a carrier in absorbing and carrying the emulsified soils out of and off the carpet. Even insolubles, such as sand and grit, are loosened and freed from the carpet pile, making them easily removable by vacuuming. After "Glamorene" is brushed into the carpet and the cleaning action has taken place, vacuum removal is easy and complete, and no residue is left on the carpet. Any type vacuum cleaner may be used.

Test Results

Unlike orthodox cleaning methods, which often cause shrinkage, warping, rotting, and ugly streaks, and which too often do nothing more than soak the dirt from the top of the carpet pile deeper into the nap, "Glamorene" actually lifts soil right out of the carpet. And, unlike some shampoos and foams which leave a residue in the carpet and cause rapid resoiling of as high as 80 per cent, "Glamorene" has the lowest rate of resoiling of any other type cleaner according to tests conducted by the York Research Corporation of Connecticut.

Complete results of tests run by the York organization on "Glamorene's" resoiling rate, cleaning ability, coverage, drying time, cleaning technique, and flammability are as follows:

It was found that "Glamorene" does not contribute to the resoiling of a carpet, and carpets treated with it have but a 30 per cent soil retention rate, as com-

LEFT—1. Glamorene is first scattered by hand over area of carpet to be cleaned. 2. A deck scrub brush is used to brush it in. 3. A regular rotary machine with brush may also be used.

Within one-half hour the cleaning chemicals in the cellulose fibre compound have done their work and the dirt that was in the pile is now in the compound.

pared with 42 per cent with a control synthetic detergent, and 45 per cent with an untreated control product.

Tested on heavily soiled carpeting in a Stamford, Conn., hotel, "Glamorene" exhibited excellent cleaning ability.

In cleaning carpeting soiled with standard laboratory soil, which is particularly heavy and is not designed to be easily cleaned, "Glamorene" averaged a coverage of 450 square feet per gallon. In cleaning a naturally soiled hotel carpet, "Glamorene" averaged from 600 to 800 square feet per gallon.

Requiring approximately one half hour to dry, "Glamorene" dries more quickly than the average synthetic shampoo. Drying can be expected to be somewhat faster in very well ventilated rooms. However, poorly ventilated rooms and corridors will require a somewhat longer period.

In these tests, "Glamorene" was worked into the carpets with an ordinary deck brush. For heavily soiled areas, two or more cleanings are to be preferred.

"Glamorene" is non-inflammable in the wet state, and its vapors represent no fire or explosion hazard.

Method of Application

The method of using this new product is so simple that any maintenance man can be shown how to apply it in a few minutes. The cleaner is merely sprinkled on the carpet, brushed in easily with either a long-handled deck scrub brush or a regular electric scrubbing or waxing machine, permitted to dry for about 15 minutes, then vacuumed off. The bristles, whether they be on the deck scrub brush or on the electric rotary brush, should be palmetto or palmyra to obtain the best results. Regular waxing or buffing brushes, usually made of tampico or union marble mix, are too soft, and the black bassine bristles usually found in scrubbing brushes are usually too stiff, in which case they can be used after they are soaked in hot water for about an hour to soften them.

Since the cleaner must be brushed into the carpet pile while it is still moist, only enough compound should be sprinkled upon the carpet which can be brushed in within three or four minutes. If a deck scrub brush is used, an area of only six square feet at a time should be done. With an electric rotary brush, an area of twelve square feet may be sprinkled and brushed at a time. The compound turns a light pinkish color when a sufficient drying time has elapsed, and it is then ready for vacuuming. After vacuuming, the carpet is completely clean, dry, and ready to walk on.

Removing Chewing Gum

The new cleaner is also an excellent chewing gum remover, a feature to be especially appreciated by theatremen.

Chewing gum poses no special problem but does require a little special attention. First step is to squeeze a handful of the compound over the spot.

The chemicals in a small handful of "Glamorene" are squeezed out over the gummy spot until the gum is saturated. Then the compound is rubbed in the palm of the hand into a small pad, which is placed like a poultice over the saturated gum. After a minute or two, the gum can be lifted right off the carpet, and it is impossible to see where it had been imbedded. Carpets are not torn or harmed in any way, as they may be with steel brushes or some types of gum softeners.

Cost

According to the manufacturer, the cost of using "Glamorene" runs from only one half cent to a cent and a half per square foot, including labor, compared with professional cleaning costs of from five cents to nine cents per square foot. It has been proved that a carpet cleaned with this product will stay cleaner for a longer period of time and requires less frequent cleanings—another economy feature.

EDITOR'S NOTE:

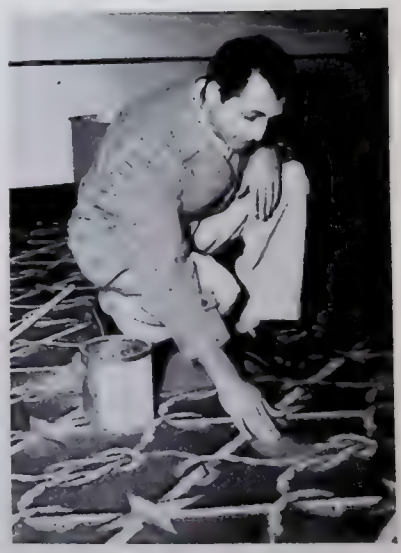
While no substitute for carpets, as the best floor covering for the modern theatre, has ever been found, it is an acknowledged fact their semi-perishable nature makes them the theatre's chief maintenance problem. Wear (eight to ten year life) is only part of it; and can be helped through reversing and relaying at traffic zones. Speed of wear, however, is directly dependent on the removal of gritty, cutting dirt, tracked into the theatre and pressed down into the base of the pile, where each succeeding foot moves it about.

The recent introduction of cleaning agents, carried by the harmless cellulous (saw dust) vehicle, that can be brushed and pressed deep into this base trouble area, promises years of extra life for hotel, theatre, and other traffic area carpets. We have been privileged to see actual demonstrations, and as a quick and effective floor-cleaning method, we feel each theatre executive owes himself a demonstration.

Key to Carpet Care

Once the entire carpet area is cleaned, the few square feet of covering directly adjacent to street door entrances and other heavy traffic zones can be cleaned as frequently as necessary. These small but vital areas of first soilation, which should be cleaned from every 10 days to every two months, depending on the amount of traffic they receive and how dirty they become, are the key to carpet maintenance. If these areas are periodically cleaned and not allowed to become saturated with soil, dirt will not spread to other areas, and the entire carpeting can remain clean for a long time. Cleaning these small areas takes but a few minutes and costs but a few cents, but it enables management to have beautifully clean carpets all over the theatre, all year round.

Spot cleaning of chewing gum or stains ends with a two minute poultice being heaped over and pressed in. They will then roll off without damage.



Theatreman's Carpet Guide

A Survey of the Latest Developments in Carpet Styles and Expert Advice on Selection and Maintenance Hints

BRIEF: *One of the fields which has seen a great deal of post-war activity has been contract carpeting . . . Where all wool carpet construction was almost universal a few years ago . . . today it is estimated that some 40 per cent of the materials going into carpet is man made . . . This has resulted in carpet of greater color range . . . durability . . . better weave . . . and many other advantages.*

This article discusses these new trends in carpet . . . and attempts to aid the theatreman by supplying him with information about theatre carpet styles . . . ways and means of getting longer life and wear from carpets . . . and the recommended maintenance ideas of two of the leading carpet mills.

Even a casual student of human behavior will admit that there are many psychological reasons, conscious and subconscious, behind a person's decision to go to one theatre as opposed to another. Very often it is something as basic as the fact that the film being shown does not fit in with the prospective patron's mood at that particular moment. However, it is just as often something as seemingly insignificant as the odor of popcorn, or the color scheme of the rest room lounge.

It would do well for the theatreman to keep this in mind when istalling his carpeting. The installation of theatre carpet is both an expensive and important operation. Carpeting that is not suitable, either in design or construction, is doubly costly. First, it requires more care and maintenance than is necessary, and secondly a design that is not in keeping with the general mood of the theatre might very well result in the loss of customers — despite the fact that neither the theatre manager or the patron is aware of the real reason. It can easily be seen, therefore, that the selection of carpet requires thorough and expert assistance.

Style

In the past number of years the style in theatre design has been towards functionalism and simplicity. This same trend has developed in the carpet industry. Today the carpet-seeking theatre man has innumerable patterns, weaves, materials, and colors to choose from. The thing he should always keep in mind is what the carpets are going to be used for. If he is seeking carpeting for a smartly designed ultra-modern art house, then the flooring material may be bold and make use of bright colors, in keeping with the rest of the design of the theatre. On the other hand, if the theatre is a conservative suburban house, then soft colors and designs are called for. It is well to remember that a carpet that might look wonderful on the showroom floor, will not show to such advantage when it is placed in the theatre. Think in terms of the general mood that you are trying to create and make your purchases along those lines. In most cases the representatives of any of the major carpet houses will be more than glad to steer you the right way if you explain exactly what you are trying to accomplish.

Materials

Probably the most exciting news in the carpet industry since the end of World War II, has been the development and use of materials other than wool in the manufacture of floor covering. This has resulted not only in a greater variety of weaves, styles and colors, but has permitted styles which were out

THE ATTRACTIVE LOBBY OF the Royal, Detroit, is an example of how the use of carpeting can add vitality to the decorative atmosphere. The colorful scroll pattern from Bigelow, is a five-frame Wilton engineered especially for the heavy traffic of public areas, and stands hard wear.

of the reach of most theatres when designed in wool, to come into a more reasonable price range.

According to reliable sources, the use of synthetic materials in carpets was practically non-existent two or three years ago. Today it is estimated that some 40 per cent of the materials being used, found their origin in a laboratory.

One of the most interesting new developments, as far as the theatreman is concerned, is the appearance of an acoustical-carpet. Manufactured by one of the leading carpet mills, this features a sponge rubber backing that binds the tufts, because it is blown into the back of the carpet. Some of the advantages claimed for this acoustical carpet is the elimination of an underlay; a substantial reduction of floor noises, which can be so annoying and distracting; elimination of the danger of mildew and rot from dampness; and a reduction in the cost of maintenance.

Another recent innovation in the carpet industry, has been changes in some of the basic weaves, which makes for greater flexibility and longer carpet life. One of these is a weave in which each tuft is woven through the carpet's back and locked in place with a special coating. As a result of this type of construction, it is possible to join carpets with almost invisible seams. An even more important feature is the ability to replace torn or damaged portions of the carpet simply, and with almost no tell-tale scars.

In order to supply the readers of THEATRE CATALOG with expert opinions, and also to enable them to learn firsthand of what is available, we are offering material supplied by two of the nation's leading carpet manufacturers. They will cover such things as carpet selection, style, and their recommended maintenance procedures.

ALEXANDER SMITH

For over 25 years, Alexander Smith's Crestwood quality has been a leader in the realm of theatre carpets. Today, after many advancements and changes in manufacture, and constant re-designing to keep pace with decorative trends, Crestwood continues to maintain a place of distinction.

The present method of looming Crestwood has resulted in many notable improvements over the earlier drum-printed velvet construction. From the standpoint of clarity of design, weaving the pattern rather than printing it, has brought about crisper, clean-cut designs, greater control, and even more flexibility in the use of color. The new method of weaving has also given more surface yarns a smoother, richer texture.

Alexander Smith is just one of the major carpet mills to proclaim their new "blended" fabrics, superior in four ways: truer, clearer colors; longer, better wear; smoother, richer texture; and lower price.

Despite the increased use of blended yarns by the carpet industry, and its unquestionable attributes, many theatres continue to specify all-wool carpeting installations. In order to satisfy this demand most mills will continue to provide their popular designs in all-wool construction.

This spring, Alexander Smith expanded its contract line of carpets with the introduction of an all-wool, Crestwood-like quality, Crestmont. This new fabric is woven of some of the most unique and stylized designs ever to appear in contract carpeting. Whereas Crestwood patterns are basically conventional in feeling, Crestmont will be in harmony with the growing emphasis on contemporary decor for theatres. To make the two lines completely inter-

ON THE LEFT: THREE carpet designs from Alexander Smith, which have been especially created for theatre use. BELOW: A view of a typical carpet showroom where theatremen could go and be sure of getting fine products and expert advice which will mean getting the carpet he really needs.

changeable with regard to fiber content, Crestmont will also be available in a "blend" on low minimum weavings.

The Proper Carpet

On large equipment items, the theatre owner is frequently in a dilemma about what is most suitable, which brand gives the best service, who is a reliable manufacturer and contractor. Installations of this type invariably mean an investment of no small sum, and once purchased, is something he has to "live with" for a long duration. A carpet installation is certainly such an investment.

The course to follow in selecting any carpet is simple enough, but there are ramifications which are frequently overlooked and later regretted. First, know the manufacturer, his integrity and knowledge of your needs. Is his product specifically constructed and designed for your purposes? What is his stand on claims you may have to make on quality, proper matching of pattern, stretching and shrinking of fabric after use, and cleaning? These are but a few points which you can check on before you make a decision.

As important as the manufacturer, are his recommended contractors. Needless to say, the appearance of the most finely constructed and carefully designed carpet would be canceled if improperly installed. Check previous contractor's installations, learn what manufacturers he represents. It is understandable that no reputable manufacturer will jeopardize his product or his position with an unreliable distributor. Again, investigate willingness to follow up on claims you may find it necessary to make.

Once the source has been decided upon, selecting the carpet becomes a matter of of practicality and taste. Careful consideration must be given to wearability and to the pattern in heavy traffic areas such as lobbies, lounges, and staircases. Select a manufacturer's fabric which you know has stood the test in other similar installations.

Cleaning Problem

The major portion of all floor covering has a wool face woven into a backing which may consist of jute, cotton, rayon or other materials. Current manufacturing processes produce this wool face in a variety of constructions, such as hard pebbletwist, plain cut pile, looped pile, and various combinations in one or more levels of pile height.

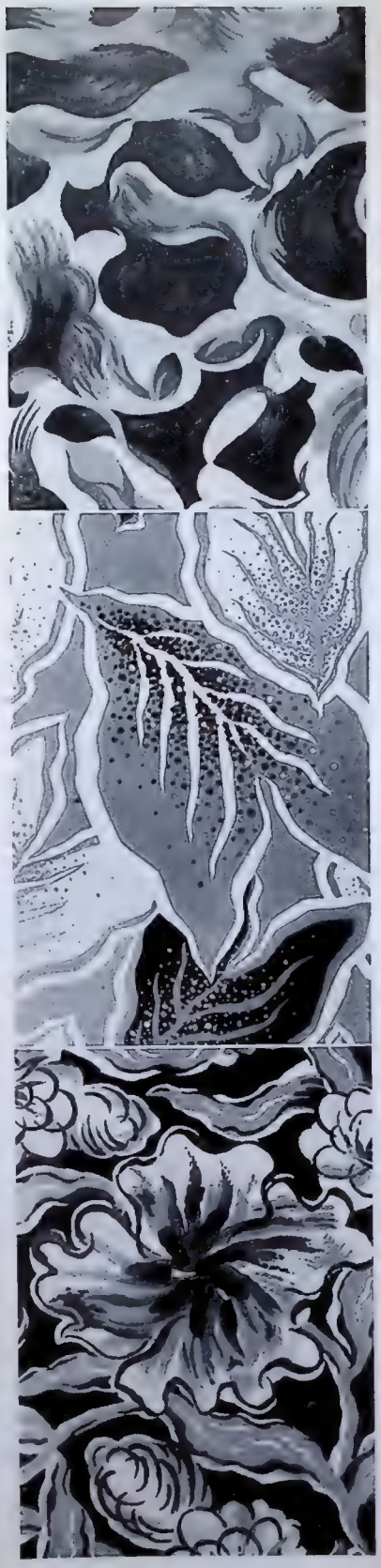
After proper installation of the wool floor covering the most important consideration is its satisfactory maintenance. To insure its wearing qualities, its handsome appearance and decorative value, cleanliness is a primary factor.

Soiling is the deposition of dirt on on the top of this pile of fibers, and the gradual penetration of this dirt down into the fabric, caused by the abrasion and pressure of foot traffic.

Carpet cleaning presents the problem of how best to remove this soil which may have penetrated completely to the base — in cases of heavy traffic — without adversely affecting the fabric in any other way. At this point it should be emphasized that on-location cleaning cannot be expected to do as thorough a job as plant shampooing insofar as dirt removal from the base of the tufts is concerned. It will, however, do fully as well on the wool face.

Cleaning Factors

When considering the cleaning of carpet there are a number of factors which must be considered.



ON THE RIGHT: More examples of the carpet designs which are suitable for the theatre. BELOW: When selecting a carpet, an exhibitor should give careful consideration to wearability and to the pattern in heavy traffic areas, such as lobbies and staircases. The design is a matter of taste.

1. **Detergency:** How best to remove the greatest amount of soil from all parts of fabric.

2. **Resoiling:** How to clean carpet so as to leave nothing of sticky or adherent nature in the wool pile. Such residue would cause dirt, subsequently tracked on the carpet, to cling more readily than before the cleaning process, since resoiling is strongly influenced by the presence of certain detergents, oils, greases, and perhaps deliquescent materials.

3. **Pile Distortion:** This has to do with the felting properties of wool, used constructively in the manufacture of blankets and fulled woolen and worsted clothing. In the case of rug cleaning, as in the washing of woolen sweaters, it is an undesirable property. Its effect in tangling fibers, and changing the surface appearance of the carpet in the presence of detergents and mechanical action, is to be avoided as far as possible.

4. **Color Bleeding:** How to prevent the washing process from having an deleterious effect in blurring color or causing one to run into another.

5. **Odor and Mold Growth:** The cleaning process should leave no objectionable odors of detergent in the cleaned floor covering. Such odors may be due — not to the detergent — but to improper drying. The cellulosic backing yarns are readily attacked by fungus which provides food for bacterial growth. If cleaned rugs are not properly dried, the backings may retain sufficient moisture for the development of ever-present spores which cause such mildew growth. This results in deterioration of the backing, usually accompanied by bad odors.

6. **Shrinkage:** Obviously, the cleaning process should not cause any alteration in the dimensions of the fabric.

The object of carpet cleaning — in addition to the preservation of the fabric — is naturally to leave the face of the carpet looking, as nearly as possible, exactly as it did when new.

BIGELOW-SANFORD

Every theatre has a "floor show" that has been billed to run for years. This "floor show" is the carpet, and it is one of the initial factors in establishing the tone of the house. If the manager is a sound business man, he will select it with the same exacting standards that were applied in booking the entertainment.

As with the performance, the carpet must be colorful, yet in good taste. It must please the audience and leave it with a desire to come back soon. Above all, it must be a durable performer with a style that is always fresh and a tough constitution that enables it to withstand the grueling demands of a long performance.

Many leading carpet men have called the American movie-house the nation's most exacting carpet-wear test. Here the carpet is committed to years of cushioning an endless parade of feet. Wet feet, scuffling feet, feet that carry and grind into the carpet an almost limitless variety of dirts, grits, and oily substances. And no less important gum, chocolate, and greasy popcorn that is dropped and crushed underfoot.

In the Bigelow-Sanford line the Wilton (or Jacquard) carpet is one of the most desirable for theatre service. This construction is famous for durability and its many patterns designed to minimize the appearance of wear. The Wilton is called the "carpet of hidden value," for buried under its surface are resilient yarns that lengthen its life and heighten the feeling of luxury. In quality it ranges from the Austrian Loom-Tufted and Hartford Saxony to a variety of less expensive weaves.

In addition to the Saxony grades, leading Wilton qualities for theatre installation include Delrock, Delwood, Edgemere, Marshfield, Ascot and Putnam. All are engineered for rugged service and incorporate the attractions of comfort, luxury and sound-silencing essential in this highly competitive field. Each is available in a wide range of patterns and colors; more than 500 styles are offered in Saxony alone. In addition, special patterns and colors can be woven in minimum quantities of 250 yards to meet individual decorative requirements.

It is recommended that if a new theatre is to be constructed, the management should consult a reliable carpet supplier or manufacturer while still in the blueprint stage if possible. Bigelow's Carpet Counsel, staffed by experts drawing from the company's 128 years of experience, is prepared to offer advice on the special requirements of the theatre installation, and to guide the manager in solving specific carpet problems.

The theatre carpet should be of heavy construction in a superior, quality that can withstand years of abuse in lobbies and lounges, and the abrasion it receives on stairs and inclined aisles. Any compromise invites the higher costs of extra maintenance and premature replacement, or the loss of business resulting from shabby appearance.

The long-term economies of this policy are seen in the experience of the Eastham, Rochester, N. Y. The original Bigelow installation was made in 1922. This carpet cushioned and silenced the steps of more than 10,000,000 people over 29 years before it was necessary to consider re-carpeting. Even then Bigelow's Carpet Counsel found that only portions needed replacing. Years of wear still remained for carpet in the mezzanine and adjacent rooms. Many other sections were taken up and re-used in parts of the balcony. The new installation was especially dyed to match the remaining portions of the original carpet so there would be no discord in the theatre's decorative continuity.

There are other important factors to consider in selecting theatre carpet.

BELOW: A BOLD tropical pattern carpet accentuates the modern beauty of the lobby of the Crest, Baltimore. Theatre carpet should be of heavy construction and in a superior quality to stand abuse. Left: Maintenance staffers learning the proper method of shampooing carpet to insure long life.

The pattern and colors should be of a character that will not readily show soil or stains, and will minimize the appearance of eventual wear. They should be in harmony with the decor of the theatre, and, most important, in a style that will not eventually look "dated." The scale of the pattern will depend largely on the dimensions of the areas to be carpeted.

Carpet Hints

Several tricks can be used to increase the life of theatre carpet. One is to carpet lobbies with two or three carpets of similar size. These can be rotated periodically so each serves part time in a heavily trafficked area, and part time in a more sheltered space. Another is to take advantage of a carpet's tendency to show wear first along the edge. If the carpet is bordered with a few inches of plain color or strip of indefinite pattern, the edge can be cut off when wear begins to show, and the carpet rebound without compromising the beauty of the central design.

Only certain types of carpet should be used for stairs, and it is advisable to order each strip eight or nine inches longer than apparently is needed. Carpet Counsel's experience shows this small additional investment will at least double the life of the carpet. In many cases it has increased the carpet's life as much as five times. The extra length is folded under, usually against a riser. Eventually the rest of the carpet will begin to show wear along the nosing of the treads. The extra length now makes it possible to shift the entire carpet lengthwise about two inches, and hide the worn lines against the risers. This can be repeated several times, and often can be used in combination with reversing the direction of the carpet.

Carpet Care

A paramount rule in preserving the life and beauty of theatre carpet is to maintain a clean surface and prevent the build-up of abrasive dirt in its base. The director of the Bigelow Carpet Cleaning Institute divides carpet dirts in four major classifications.

1. **Dust:** Pulverized particles of vegetable, animal or mineral matter which are carried in by the air, and settle as surface soil on anything they reach.

2. **Surface Litter:** Paper, thread, hair, lint, fluff, even tin cans and old bottles. These lie on top of the carpet and at most are only lightly attached to its fibers.

3. **Embedded Grits:** Sand, cinders, pulverized cement and glass, and other sharp abrasive materials which are tracked into the theatre and ground in the carpet by shoes. These insoluble grits frequently amount to from 25 to 50 per cent of the carpet's weight, and have been known to even exceed the natural weight of the carpet.

4. **Grease and Oil:** These imprison dust on the carpet's surface and cause smudge; trap embedded grits in the base and create matting, cut pile and backing yarns, accelerate wear. Grease and oil are by-products of the theatre's refreshment stand and popcorn machine. They also come from heating and industrial vapors, oiled highways, automobile exhausts, kitchen fumes, etc. They are part of the air in any city.

Dust and smaller surface litter are usually removed by daily vacuum cleaning, preferably with a beater-sweeper machine. Dust resists this treatment only when it is turned to smudge by excessive grease and oil. Surface litter too large or too stubborn for machine pick-up, must be removed by hand. Do not use a broom; it will scratch the carpet's tiny yarn filaments and damage the tufts.

An effective "dry" method for removal of embedded grits is by regular treatment of theatre carpet with a new power pile-brush machine. Described as a professional carpet sweeper, it was developed by Certified Chemical and Equipment Company, in cooperation with Bigelow-Sanford's product research and development staff. Its efficient circular brushing relieves matting in badly soiled carpets, brushes out dried spots of food, mud and other matter, opens the pile and loosens embedded grits so they can be picked up by a suction machine.

Many theatre managers go one step further in checking the smudge, matting and dirty trails caused by grease and oil in carpet. This is by regular application of a dry absorbent powder made from natural mineral clay (not sawdust or wood-flour type of powder). Usually it is applied in combination with Stoddard Solvent, which also cleans but serves mostly to prevent dusting. The powder is spread and brushed into the carpet after preliminary treatment with the pile-brush and suction machines. It is allowed to remain for from two hours to overnight, depending on the soiling of the carpet, then it is removed with pile-brush and suction treatment.

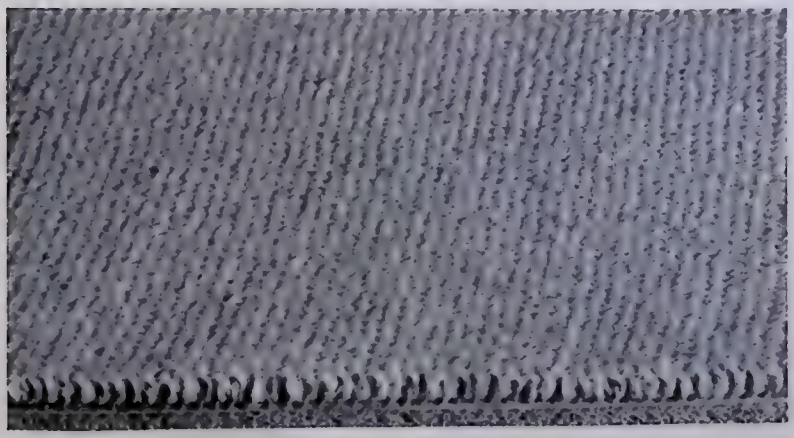
Professional Care

Periodically it is imperative for theatre carpet to receive professional cleaning. Until recent years this was a major problem, for all known methods had inherent weaknesses for on-location cleaning. Those employing greasy soaps left residues which collected dust and hastened soiling. Those using alkalies often degraded the carpet's fibers and caused its colors to bleed. Over-wetting frequently weakened or shrunk the backing yarns.

The problem was so serious that Bigelow assigned its research staff to the development of a safe, economical and technically correct method for cleaning carpet on location. The result is Karpet Kare, the first carpet cleaning procedure ever developed by a carpet manufacturer. Its cleaning agent is a blend of synthetic detergents in an aqueous solution free of greasy soaps and alkalies. These act like thousands of tiny sponges in soaking grease and oil out of the carpet's back, and the action continues long after the shampoo is completed. Karpet Kare also contains ingredients that absorb smoke odors and other smells, and an antispectic that eliminates the danger of post-shampoo mildew or dry-out.

The Karpet Kare method employs preshampoo preparation with power pile-brush and suction machines. The shampoo itself is applied with a machine driven nylon brush according to a special rotary technique that attacks dirt on all sides of each tuft and controls solvent penetration. After shampoo, the pile-brush is again applied to smooth and erect the tufts. This quickens drying, renews the carpet's youthful appearance, and re-activates its luxurious cushion.

CROSS-SECTION OF Cushionlok, the "acoustical carpet" shows the tight-looped construction of the wool pile and close adherance of the sponge rubber backing. It is ideal for lobbies, lounges, etc.



CONCLUSIONS

As a result of the recent developments in new film techniques there is a new and encouraging interest, on the part of the public, in motion pictures. It is more important than ever, therefore, that the theatres do nothing to reverse this trend. The movie going public has come to expect and demand theatres that not only show good films, but are also clean and pleasing to the senses.

The carpet industry is now in a better position than ever before to supply floor coverings that will be functional, attractive, and within a price range that is not prohibitive. Everyone is trying to put their best foot forward. It would do well to give some thought to what that foot will be walking on when it comes down.

By making a careful survey of his carpet needs, and by getting expert counsel, the carpet-buying exhibitor will be taking a step in the right direction.

The Seat of the Matter

With the Public Insisting Upon the Finest in Entertainment and Comfort Proper Seating is a Must in the Modern Theatre

INTRODUCTION

Theatre seats are the most intimate daily contact you have with your customers each and every time they come to your theatre. Actually, the customer rents a seat from you so that he or she may watch the picture in comfort.

Therefore, while it is agreed that the customers came in to see the picture, it is also true that they are to be provided with a seat to see the picture. The seat then becomes an aid or detriment to their enjoying the picture. It has been proven time and again that a comfortable seat can make a mediocre picture seem better and inversely that an uncomfortable, poorly maintained seat can make a good picture seem mediocre.

The first point a theatreman should keep in mind then, is keeping his seating up in excellent operating condition. This is particularly easy to do with late model theatre seats because the seat cushions are easily re-covered, the metal backs are easily touched up, and the hinges and operating parts have been simplified with welding and riveting replacing the old nuts, bolts, and screws that caused so much trouble. This is true of recent new theatres and reseating installations which have been installed in the last few years, but does not apply to older theatres.

The major portion of indoor theatres were put up in the lush twenties when the industry was young. These theatres were seated according to the practices and codes existing then with the basic thought of getting as many seats as possible installed.

It is these same theatres, put up 20, or more years ago, that are closing their doors because business has gone elsewhere. In most cases very little has been done to maintain these theatres other than splashing a little paint around and recovering the worst seats.

It was natural that drive-ins should pull some business away in the summer months. It was natural that new, modern theatres with adequate parking lots, staggered comfortably spaced seating, and modern conveniences should also affect these older theatres' drawing power. After all, in 1945 there were 18,000 theatres, indoor and outdoor, and last year the number was somewhere around 23,000.

It was also to be expected that television should affect box office receipts, particularly in these older indoor theatres. It is much easier and cheaper to sit at home in an easy chair and watch old movies on television, than to get out the car, drive to the old neighborhood movie, and walk two blocks from where you parked, just to pay to see a movie which might be later in issue, but does not compensate for the difference in effort and expense.

BRIEF: ***As a result of such things as 3-D and wide-screens the motion picture theatre industry is today enjoying renewed interest and enthusiasm on the part of the public . . . With the return of many former patrons . . . and the influx of new customers . . . theatre owners have a golden opportunity to get a large segment of the public back into the movie habit.***

In order to cultivate this habit theatremen must supply their patrons not only with the finest projection and sound equipment . . . but also with the comforts that they have come to expect . . . One of the most important pieces of theatre equipment then is proper seating . . . This article discusses the various types of seats . . . sight lines . . . construction . . . maintenance procedures . . . and many other valuable pieces of information which should prove to be of great value to any exhibitor with a seating problem.

The one fact that is standing out all over the country is that there have been theatres closing, but that these closings were predominately old run down theatres, or what are called "protective theatres" to keep another competitor from building, or they were older theatres in areas where new, modern, theatres have been built.

With all of these factors affecting his business, the theatre owner should take steps to protect his investment in his livelihood, the theatre building.

The most important single improvement that can be added to an existing theatre building, with the exception of sound and projection equipment, is new seating utilizing all modern seating techniques for greater comfort and convenience to the customer. Have a seating man from any of the seating companies analyze your theatre as to layout, sightline study, and seating needs.

These seating men all recognize the fact that comfortable seating arrangements installed in the theatres from now on, are protective insurance for the future of the theatre industry. Gone is the old time idea of how many seats can be jammed into the auditorium, and still pass the minimum requirements of local and state safety ordinances.

Now the seating man works out every reseating job with careful thought given

THE MODERN THEATRE OF TODAY, SUCH as the University, Columbus, O., finds it must offer its patrons seating that combines beauty, comfort and style. These 1056 Kroehler seats are an example.

NOTE: *The Editors of THEATRE CATALOG wish to express their appreciation to C. E. Nelson of American Seating Company, Carl B. Lugbauer of Heywood-Wakefield Company, and H. W. Peterson of Kroehler Manufacturing Company, for supplying much of the information used in this article.*

THIS DELUXE MODEL Heywood-Wakefield seat features a spring base for "rocking chair" action.

to the maximum comfort of John Q. Public, so that the theatre he reseated will draw the customers in not only with good product on the screen, but aided and assisted by comfortable seating too.

If you have an older theatre and business could stand a shot in the arm think seriously about featuring new comfort in your theatre, along with the better product, and newly developed projection techniques.

Many progressive theatres have already found that this very important improvement pays extra dividends at the box office. They have also found that the old seats already charged off, can be sold profitably in the local territory.

If you as a theatreman believe that you are a responsible business man, the same as other merchants of your community, then it is time to follow their trend and periodically change and improve your business property to reinterest the public in your theatre.

COMFORTABLE SEATING

The day of the changed over store or neighborhood shotgun theatre is past, and the public expects the same modern merchandising that he contacts in other phases of living. He expects more comfort and convenience, and that is why existing seating should be renovated or replaced.

It is generally accepted by seating men and theatre architects that the seating can no longer be jammed in trying for maximum capacities.

Seat Spacing

Minimum row to row spacing for modern seating is generally agreed upon as 32 inches, with the trend going to 34 inches row to row, where possible. The wider row to row spacing is particularly advantageous in the rear portion of the theatre where the floor slope is the greatest. Many theatres use 34 inches row to row in the back portion of the house where the floor slope is the greatest; 33 inches in the middle portion as the slope decreases; and 32 inches row to row in the front or level area where children generally sit.

If spring back luxury type chairs are to be used, it is wise to allow an additional 2 inches per row to compensate for extra thickness of the spring back. Loge type seats may require up to 48 inches from row to row, to provide full comfort.

Widths

Seat widths are now generally available in 19, 20, 21, and 22 inch stock widths. It is possible, however, to get 18 inch seats on special order and 23, 24, 25, or 30 inch on special order. Twenty inch width seats are considered minimum width today with the use of 19 inch seats limited to abutting on aisles for aisle alignment purposes. The use of 21 inch and 22 inch seats is increasing, particularly with staggered type seating.

Theatre floor slopes are generally established by the architect to provide what is known as second row clearance. In other words, a straight line from eye level to the focal point of the screen will adequately clear the top of the heads of occupants in the second row ahead.

THE SAME CHAIR as seen on the left, but with the spring filled headroll, for added comfort.

The clearance is generally calculated at five inches today.

This second row clearance still leaves the problem of seeing around the heads of the occupants in the next row ahead.

In the side sections of the theatre the angle of sight is almost automatically offset enough to look between the heads of the next row ahead. The three or four seats on either side of the center line of the theatre in the center bank of seats are the problem. For many years seats were aligned from front to rear likes rows of corn. However, the customer had to shift from side to side in his seat depending on how the person in front of him was sitting.

Staggered Seating

In the late twenties, various methods of staggering center banks of seating started to develop. It was then that the seat and a half, or "love seat" developed for use in every other row. Use of this type of seat provided a clear sightline between the heads of the row ahead with the loss of one seat every other row. This loss was offset in many cases by two teen-agers occupying the large seats, whence came the tag, "love seat." In many locations this close physical proximity brought about unfavorable comment from older patrons, and the use of love seats eased off.

In the meantime, other methods of stagger developed. One was to indent the aisles a half seat or less than half a seat with wider chair widths. This meant a loss of one chair every other row. Many local codes required a straight aisle line so a plan using varied seat sizes and reversing the sizes of every other row, came into the limelight. This method uses 19 inch chairs at one end of the row, with 20 inch and 21 inch chairs filling out the balance of the row and reversing the sequence in the next row ahead.

Another method in general use today is dropping one seat every other row and using wider seats to come out flush at the aisles. For example, one row would have 11 - 20 inch chairs total 220 inches, plus aisle overhang; the next row 10 - 22 inch chairs, total 220 inches plus aisle overhang.

A stagger improvement developed by Ben Schalanger, noted theatre architect, was to indent the aisle seats, but use an extra center standards with a wide chair arm to come out to the aisle standard located in proper aisle alignment. He also developed the idea of providing true staggering in side sections through the use of extra center standards coupled with varying chair widths.

Regardless of the method of staggering used, it is generally agreed that staggering the center bank of seats, coupled with the availability of wider seats for stout people, give the manager something extra to sell to his customers, and they appreciate it because it is for their greater comfort and enjoyment of the picture.

The theatreman is fighting a tough competitor in the comfort of the living room chair with TV available. Seating companies have recognized this and as a result present day seats are designed

ENCORE IS THE standard H-W theatre chair and has the coil spring seat, with a padded back.

to provide the maximum in comfort and convenience.

DESIGN AND DURABILITY

The theatre seats available this year are a far cry from the chairs made 20 years ago. The smooth steel backs and seat bottoms enameled in bright modern colors with colorful durable upholstery fabrics for the backs and seat tops, are a complete change from the dark brown veneer backs and dark colors used in the twenties. New seating will effectively re-decorate the most important part of the theatre interior as far as the customer is concerned. This is so because the customer sits in the new seats, and the new colors surround him on all sides as a close visibility.

The new seats featured by all companies eliminate the old nuts, bolts and screws that were, and are such a maintenance headache.

Seat cushions are still cut up, but it is an easy matter to replace damaged covers as practically all cushions are easily removed from the steel bottom pan for recovering, and the covers can be obtained from the seating companies all sewn and ready to remount over the spring unit.

With Government restrictions relaxed, and with the new interest in motion pictures as the result of the better product and new technical advances, it is time that the theatre owners profit by modern merchandising lessons demonstrated in every business district, and every town. It is the merchant, chain or circuit that constantly renovates, refreshes, or builds new and better drug stores, gas stations, super-markets and theatres which will continue to make a profit. Those who take everything out of a business without keeping the physical property up, are those who are fast closing up.

The seating companies are ready to provide free of charge engineering service, plus ideas on how to improve the seating comfort and convenience. Naturally, they are also ready to deliver the best seating values ever available, for the theatre owner to capitalize on.

SEAT MANUFACTURE

Advances made in theatre-chair design and construction in the past few years are even surpassing the expectations of the designers and manufacturers that are responsible for them.

In almost all seating companies top-quality seating is reaching a perfection never before envisioned. The functional design of theatre seating has overcome nearly all of the inadequacies of pre-war years. Structural faults and failures are a rarity. Modern materials have been utilized to the utmost, to bring comfort and convenience that present-day audiences demand.

Rigorous tests and experiments with woods, metals, upholstering and fabrics leave no doubt as to the suitability for the use intended. Miracle finishes are tougher and more durable than ever before. Springs have been devised especially for sustained comfort. Fabrics, using the latest and best synthetics, combined with traditional materials, provide for years more wear.

Paralleling these advances in designs and materials have been the great strides in manufacturing methods. Giant steel presses deep-draw specially-wrought steel, forming flat sheets into seat foundations and back panels in a few strokes of a labor-saving machine. Preparation of metals for better adherence of finishes, including caustic baths and surface etching. The advent of the "electro-static spray" method of applying finishes, wherein the spray enamel is attached to the metal by static electricity, has vastly improved coverage of the entire metal surface. Infra-red lamps then automatically bake the tough enamels to a smooth, hard finish.

Innovations in upholstery methods and techniques have eliminated the use of tacks and other antiquated gadgets, and made the occasional replacement of upholstery damaged by vandalism a matter simple enough for the custodian to handle. Numerous mechanical devices maintain top quality, in terms of uniformity, comfort, and contour.

The development of the automatic, uniform-folding silent, three-quarter safety fold seat action, has provided convenience for thousands of theatre patrons, and has saved many hours of sweeping time.

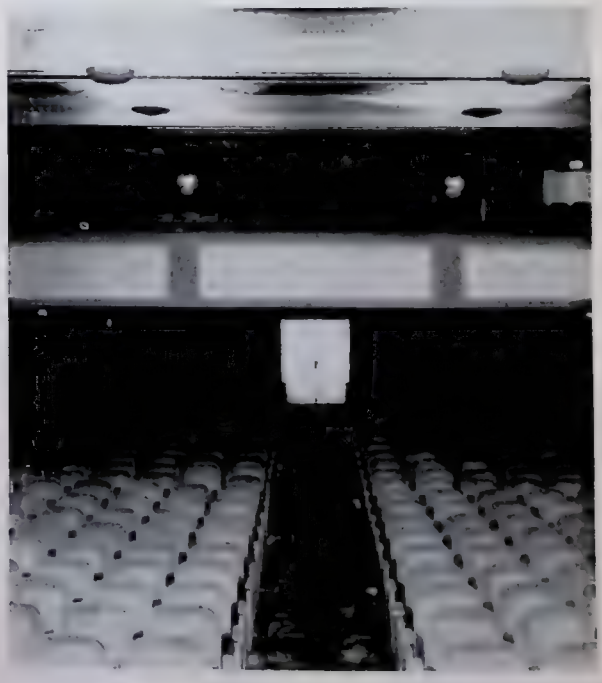
Top quality modern seating gives an attractive, style-conscious first impression, with a wide range of chair styles, colors and choice of fabric designs and textures.

America's taste for better living can, and must be reflected in the "stepping out" feeling that starts at the marquee, and settles down with the customer, in solid comfort, to relax and enjoy the closest contact he has with the theatre — his seat. This is his lasting impression of the nation's theatres. Make sure it is a good one!

It can not be stressed often enough! With more people returning to theatres, every theatreman should make a maximum effort to make his theatre so attractive that, coupled with the latest techniques, the renewed interest will not be allowed to fade. Seating plays a very important role in this job.

ON THE LEFT IS A VIEW OF THE Castle, Bloomington, Ill., showing seating that is worn and which created a rather drab, gloomy atmosphere.

ON THE RIGHT IS THE SAME HOUSE after seating experts had put in modern seating, and eliminated one aisle for greater comfort and viewing.

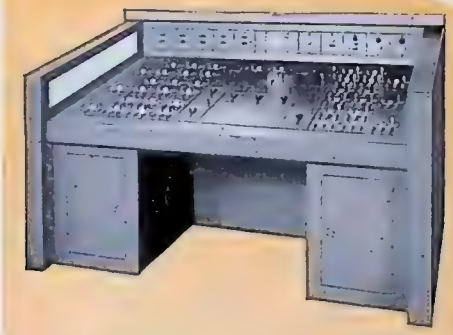


UPPER LEFT: A PHOTOGRAPH OF the giant steel presses used at the American Seating Company plant which forms steel sheets into the seat foundations and backs. Upper Right: The "electro-static spray" which is used to automatically cover every inch of metal with a perfect finish. Magnetic attraction carries enamel to the steel for a uniform coverage. Lower Left: Apparatus used to test theatre chair hinges. Seat is raised and lowered thousands of times to determine life of hinge. Lower Right: The finished product which combines sturdy construction with comfort.

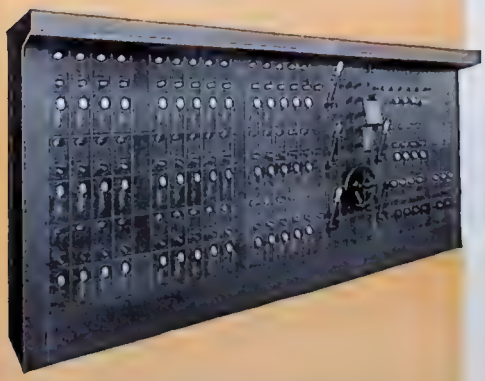
ON STAGE

in more than 500 theaters throughout the country . . .

STAGE LIGHTING CONTROL SYSTEMS *play a leading role!*



Ⓕⓐ pilot board for electronic tube system with Reactance Dimmers which provide pre-selective lighting intensity with almost instantaneous reaction to the operation of the control element and a dimming control system capable of controlling a wide range of connected loads on each circuit.



Pilot Controlboard of 10 All-Master, multiple pre-set remote control system.

Ⓕⓐ Stage Lighting Control Systems add substantially to the color, beauty, enjoyment, and... because they require less maintenance . . . *profit* of all theaters and auditoriums — large and small.

The result of more than 50 years experience and technical "know how" Ⓕⓐ Stage Lighting control systems embody the latest features in design and construction and fit admirably into the plans for all types of theaters.

Built on the unit basis, Ⓕⓐ Controls are long-lasting and trouble free. All bear the Underwriters' Laboratories' stamp of approval. Included in the equipment produced by Ⓕⓐ for theaters are the following:

CONTROLBOARDS for:
- Manual Control
- Modified Pre-Set Remote Control
- Multiple Pre-Set Remote Control
- Motor Driven Control
- Electronic Tube Control
- Mobile Color Lighting Control.

DIMMING CONTROL EQUIPMENT
- Resistor Dimmers
- Auto-Transformer Type
- Reactor Types

If you are planning a new theater or auditorium, or modernization of an existing structure, include a Ⓕⓐ Stage Lighting Control System in your plans. For additional information contact an Ⓕⓐ representative, conveniently located in most large cities, or write for Bulletin 801.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI.

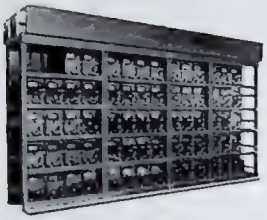
Makers of: BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

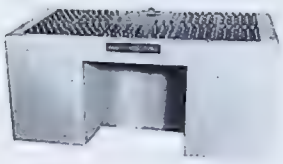
The COMPLETE Line of Dimmer Controls

Your surest source of the correct dimming equipment for any type of theatre, auditorium, hall, etc., is Ward Leonard, the *only* manufacturer offering all types of control—reactance, resistance and autotransformer, both manual and remote.

Ward Leonard's engineering department will be glad to furnish recommendations or specifications for the proper selection or adoption of lighting controls. Send complete information about your installation problem.

REACTANCE





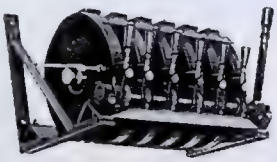
WARD LEONARD'S *HYSTERSET.* New electronic circuits, using small current values and miniature control devices, permit grouping many dimming and switching controls into one control board for one-man operation.

Single rectifier tube per circuit reduces upkeep to a minimum.

Various circuits can be interlocked electronically for group master or grand master control from a single operating lever. Preset control permits pre-selection of two or more lighting combinations or scenes in advance. Wide range—standard design is suitable for 20% to 100% dimmer rating.

Response to the pilot control is instantaneous for quick blackouts or immediate brightening. *Bulletin 74.*

RESISTANCE

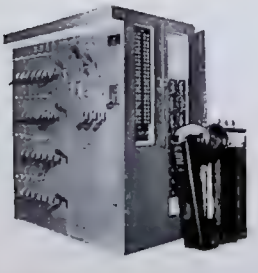


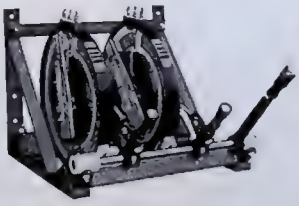
WARD LEONARD'S *VITROHM.* Inexpensive assemblies for small theatres and auditoriums, schools, churches, and lodge rooms provide low-cost, flickerless dimming.

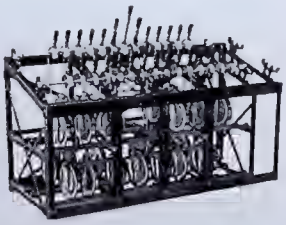
Non-interlocking. Single or multi-plate assemblies. *Bulletin 71.*

Interlocking assemblies with group, color and grand master control. *Bulletin 72.*

AUTO-TRANSFORMER







WARD LEONARD'S *AUTRASTAT* AND *RADIASTAT.* *Radiastat* (radial type)—5500 and 8000 watts 120 volts AC. The foolproof, maintenance-free autotransformer dimmer. 115 large brass contact segments and multiple silver alloy contact shoes give positive contact for large-capacity loads. *Bulletin 76.*

Autrastat (rectangular type)—4000 watts 120 volts AC. Metallic contacts to withstand high inrush current of large incandescent lamps. *Bulletin 76.*

REMOTE CONTROL

Remote operation of resistance, Autrastat or Radiastat dimmers with Motorlite or Regulite control systems are excellent for installation requiring control from projection booths.

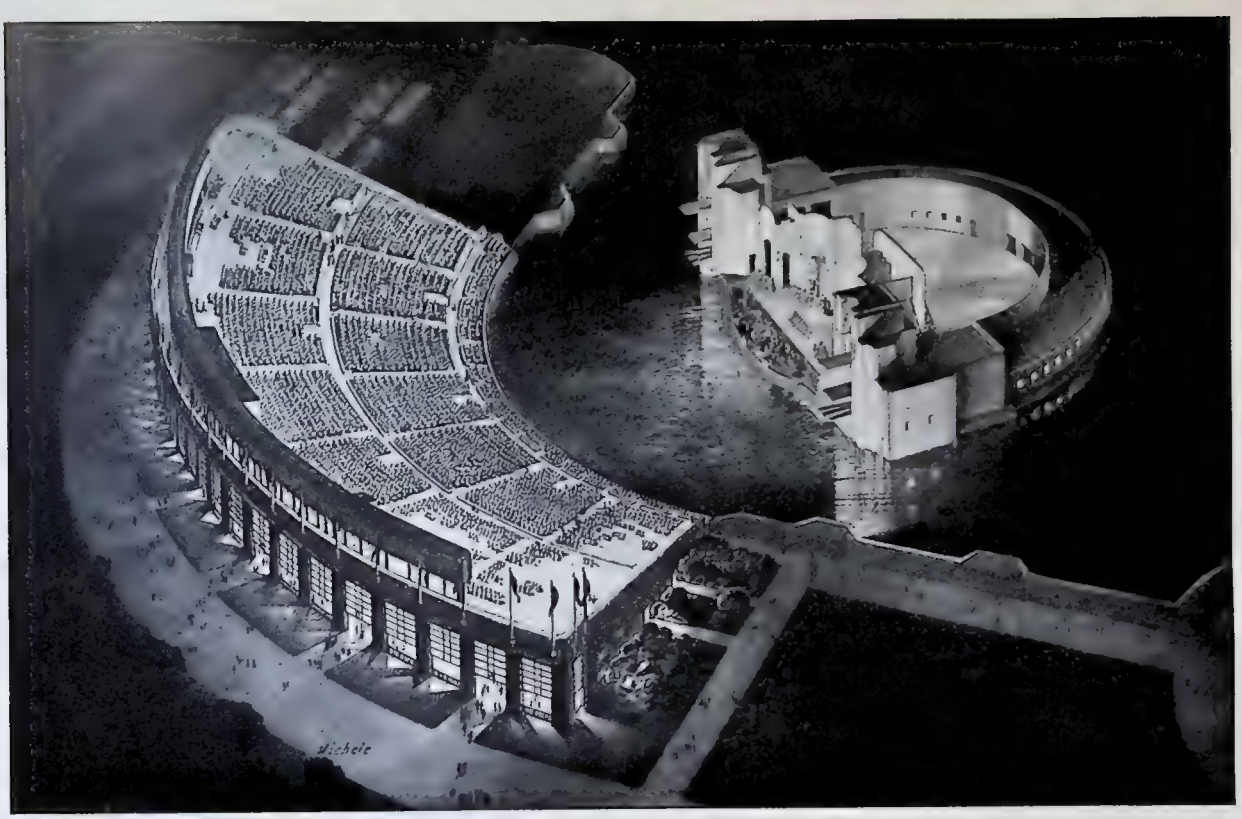
WARD LEONARD

Result-Engineered Controls Since 1892

WARD LEONARD ELECTRIC COMPANY

86 South Street, Mount Vernon, N. Y. Offices in all principal cities of U. S. and Canada

Relays • Resistors • Rheostats • Control Devices



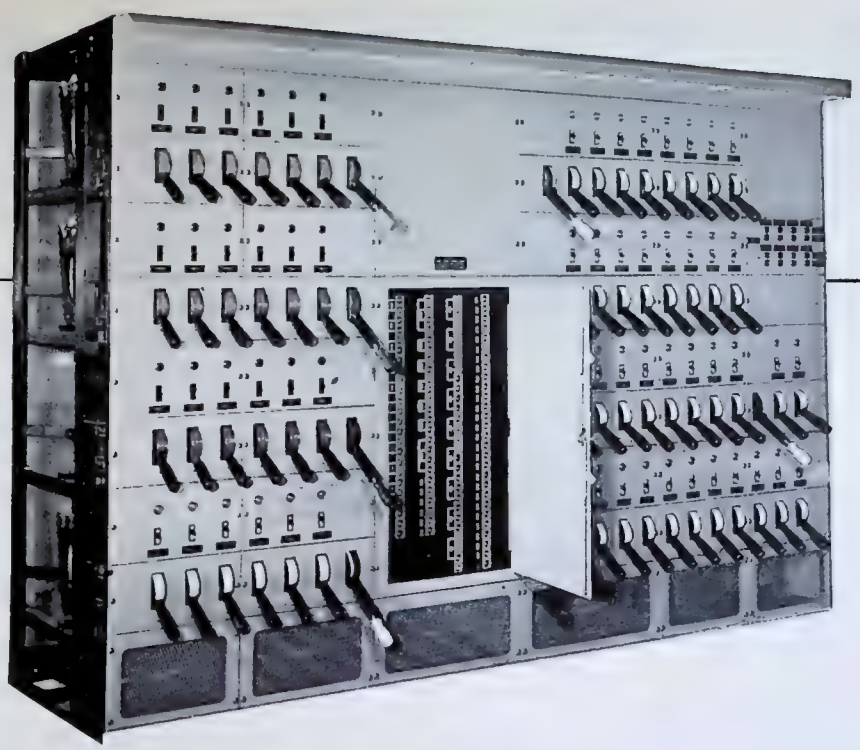
One Million Watts...On Cue

That's what's required to change scenes out at the Jones Beach Marine Stadium, the world's largest open air theatre. This "imaginative lighting" got rave notices in the reviews of "Night in Venice", the first production to play here. Gradations in lighting to indicate any time of night or day, sunshine or storm, to give dramatic emphasis, for subtle changes in mood — all are painted in light from the master control booth high above the stadium. Ten remote switchboards containing Ward Leonard Hysterset electronic controls and reactance dimmers deliver one million watts of pre-determined illumination on cue.

This is the largest lighting control installation in the world, and it accounted for about one quarter of the total cost of the entire project. Only the very best of control devices could have handled the vast and highly complex lighting of a 105-foot stage from a distance of over 300 feet. That's why the Trumbull Electric Department of General Electric made Ward Leonard Hystersets an integral part of the entire installation.

Ward Leonard engineers will be glad to work with you on any problem of dimmer control, regardless of its size or intricacy. Write to Ward Leonard Electric Co., 86 South Street, Mt. Vernon, N. Y.
3.33

PRE-SET CONTROL PANEL in center provides preselection of lighting for three complete scenes, produced "on cue" by master controls in the master console, right.



For complete, instant control of lighting intensity

FEDERAL NOARK®
DIMMER CONTROL SWITCHBOARDS

SPACE-SAVING design . . . controls and circuit protection equipment in one compact enclosure! Complete flexibility of light adjustment! Smooth, flickerless dimming! Maximum reduction of electrical losses! These are some of the reasons why the Federal Noark Dimmer Switchboard is being more and more widely adopted the country over.

The Federal Noark Dimmer Switchboard uses auto-transformer type dimmers which vary voltage to change lighting intensity . . . never wastes current by boosting resistance. It dims individual lights or any combination of circuits . . . permits the setting up of desired lighting effects in advance of requirements.

In motion picture and legitimate theatres, night clubs, auditoriums and stages of schools and colleges—wherever lighting effects must be controlled and regulated—the Federal Noark Dimmer Switchboard brings outstanding efficiency and economy. Write for full data.

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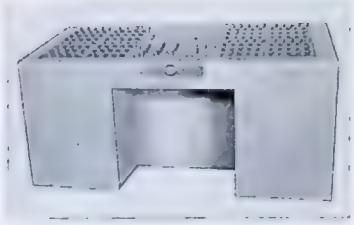
IN PRINCIPAL CITIES

Stage Lighting At Its Best

WITH TRUMBULL CONTROLITE



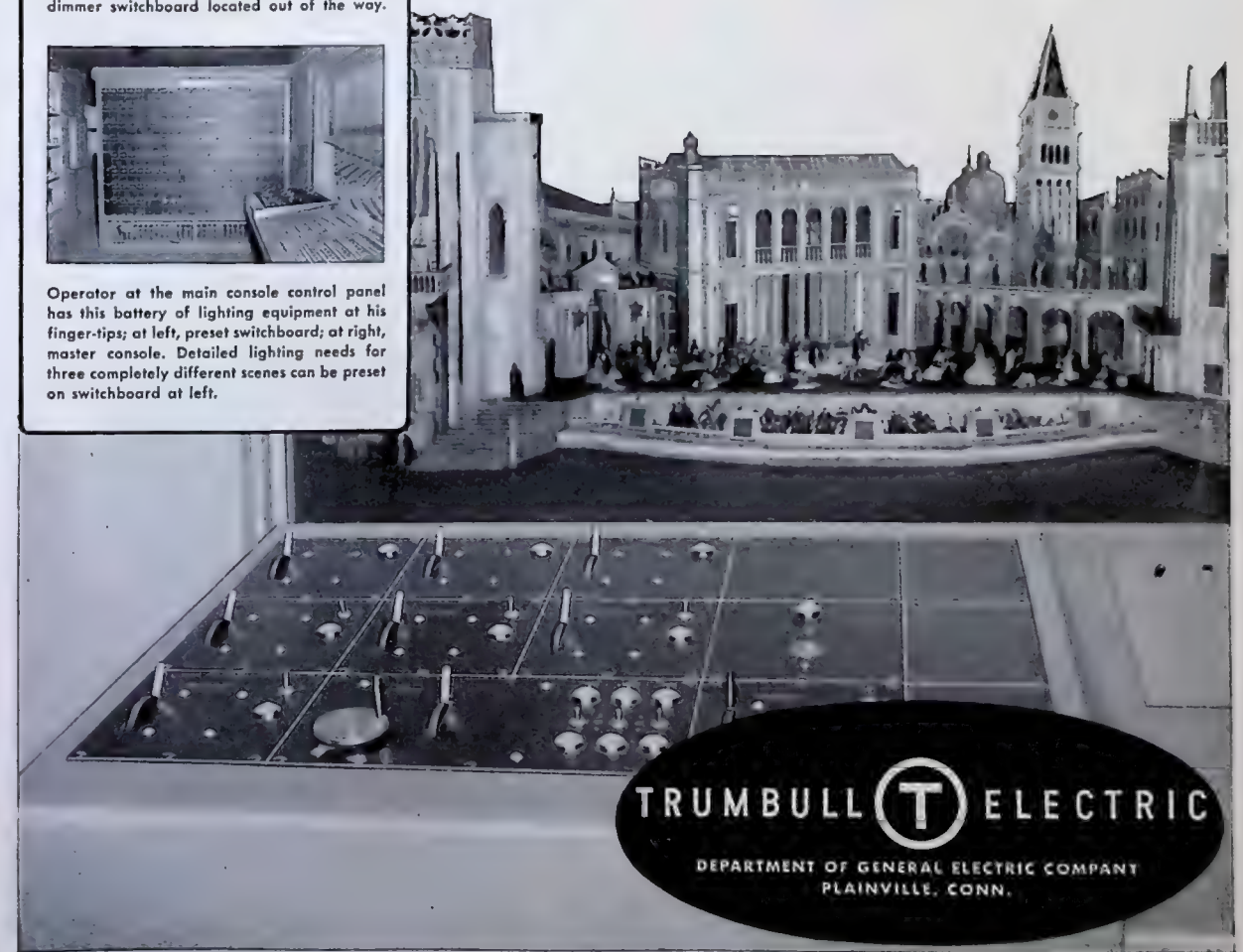
Desk type remote control console, of multi-scene preset type, utilizing electronic control. Remote location of pilot control console permits operator to view and check results, with dimmer switchboard located out of the way.

Operator at the main console control panel has this battery of lighting equipment at his finger-tips; at left, preset switchboard; at right, master console. Detailed lighting needs for three completely different scenes can be preset on switchboard at left.

You can play a veritable symphony of light and color with Trumbull Controlite, thanks to the advanced design of its controls. The lavish production of The Merchant of Venice at the 1952 opening of Jones Beach Marine Stadium (below) demonstrated the beautiful effects which can be achieved with Controlite lighting control.

Whatever type of dimmer control is desired — resistance, autotransformer or electronic — and whatever the size requirement, Trumbull can engineer and custom-build exactly the right switchboard for the job, at lowest cost. Trumbull's years of experience assure complete satisfaction . . . and you can count on the availability of Trumbull's complete and expert engineering service for years to come.

Please write for full information, outlining your problem.



TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

EVERY SIZE AND TYPE FOR ANY BUDGET . . . ANY APPLICATION

POWERSTAT Light Dimming Equipment brings new standards of fine performance to any and every lighting installation. It provides smooth, stepless dimming, brightening and blending from full-on to blackout. Operation is cool, silent, efficient and economical. POWERSTAT Dimmers are truly flexible; they will control any number of lamps up to their full rated capacity and can be used with either incandescent or cold cathode lighting. Installation in either old or new circuits is simple and inexpensive.

Whether you're building or remodeling, you can be sure of better light control . . . and equipment better suited to your exact needs with POWERSTAT Dimmers.

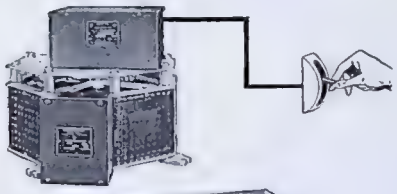
Including NON-INTERLOCKING TYPES

MANUALLY OPERATED

In auditoriums, single rooms and other installations where only a few circuits require dimming, non-interlocking POWERSTAT Dimmers find their widest use. They consist of one or more units operating in unison on a common shaft. Ratings from 1,000 to 30,000 watts are offered.

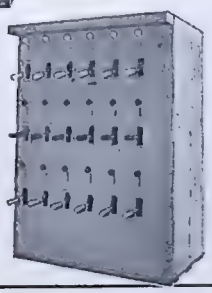
MOTOR-DRIVEN

For effortless operation of the larger models . . . or for convenient remote control, motor-driven POWERSTAT Dimmers are available. They are also adaptable to positioner control from a compact, console-type board.



INTERLOCKING TYPES

Supplied in 2000 and 5500 watt ratings, the interlocking POWERSTAT Dimmers may be operated independently, mastered or grand-mastered. They are available as units — each supplied with individual hand lever and indicating drum — or as factory framed assemblies in almost any required combination.

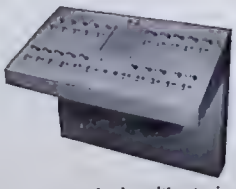


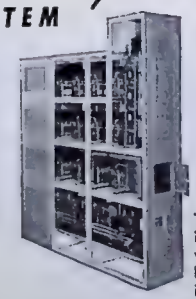
and these Exclusive POWERSTAT Developments

PACKAGED TYPES

Particularly well suited for small theatres, schools, churches and other applications where expense is a governing factor, PACKAGED POWERSTAT Dimmers provide big switchboard effects at a modest cost. Numerous models are available in ratings from 6,000 to 12,000 watts. Units may be purchased singly and others added later as finances permit.

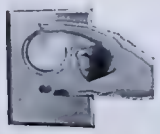
THE LUXTROL SYSTEM





Here is the ultimate in light dimming equipment. The LUXTROL System provides all the facilities of a large switchboard installation in a compact, console type control board. The selector stations can be located in the place most convenient for the operator while the motor-driven POWERSTAT Dimmers are installed in any out-of-the-way space. This system, adaptable to both large and small installations, makes it possible to pre-set lighting effects in advance timed to coincide with the most complicated stage productions.

THE WALLBOX DIMMER



This new concept in light control is designed for mounting into a wall. It is used in place of regular wallswitches and is easy to install. Like all POWERSTAT Dimmers, its operation is smooth and efficient. Any number of lights up to the full rated capacity of 360 watts can be controlled.

Send NOW for Information Literature on all light dimming equipment manufactured by The Superior Electric Company is available for the asking. JUST WRITE TO:
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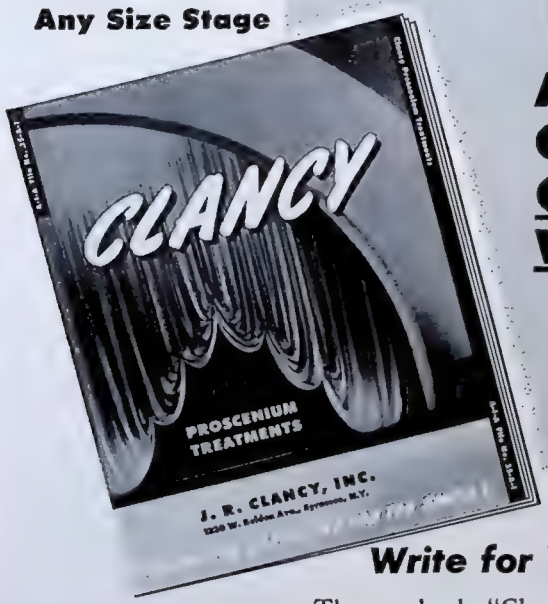
World-Wide Service-
Any Where
Any Time
Any Size Stage



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The new book, "Clancy Proscenium Treatments," reveals the unlimited possibilities of giving your stage superlative beauty and utility — through the use of breath-taking new contour curtains—orchestra lifts—motorized band cars—disappearing microphones—draw curtain tracks and controls. Write for your free copy today!

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Now you can obtain all the new miracle yarns wondrously converted into beautiful fabrics in either plain or designs for theatre, nightclub and institutional use . . . *all non-combustible without the necessity of any additional treatment* . . . in a full rainbow-range of coloring . . . in patterns which will excite the most exacting taste.

New methods of movie projection and sound have created new problems in proper control of light reflection and reverberation. Correct drapery and wall covering are necessary in the full solution of this completely new situation. The experience and know-how of Frankel Associates in the best choice of these materials is available at all times.

Always in Stock

Damasks, Velours, Satins, Plushes, Cyclorama cloths, Screen cloths, plain and printed Dacrons, Orlons, Dynels, Nylons, Glass fabrics, Tinsels and many other decoration drapes.

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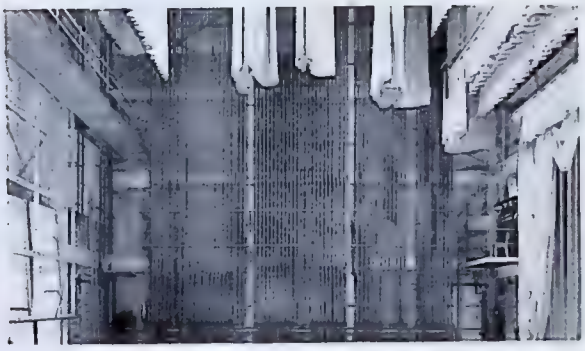
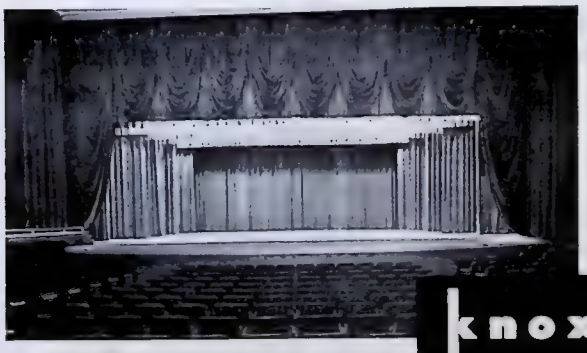
foremost in beauty and economy . . .

Distinctive Stage Equipment



Stage Rigging, T-Bar Counter-Weight System. Dade County Auditorium, Miami, Florida.



Dade County Auditorium, Miami, Florida. Steward and Skinner, Architects.

Nothing adds more to the "feeling" of a production than the flawless operation of lighting, stage equipment and rigging.

Architects and owners are invited to use freely the professional services of Knoxville Scenic Studios. Our creative and engineering departments will gladly assist in development of plans, drawing upon years of experience in stage design in many countries and on the high seas. (Pardon the slight blush while we modestly point with pride at the luxury liner, "United States.")

Knoxville Scenic Studios manufacture and fabricate in America's finest and most efficient stage equipment plant. Our service includes preparation of blueprints, showing details of gridiron construction, smoke pockets, position and operation of all curtains, cycloramas, side drapes, border lights and light bridges, sound horns, picture screens, revolving stages, stage, console or orchestra lifts. Erection and installation is personally supervised by our own installation specialists to insure the proper technical hanging of all equipment for satisfactory service.

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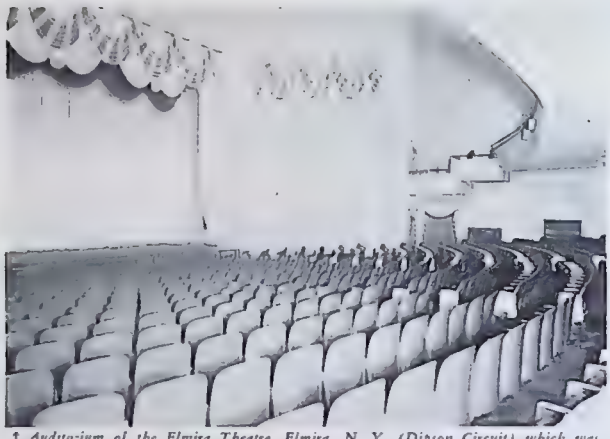
✓ REGULAR SIZE

ALL require the Best Use of Existing Facilities . . .

AT MINIMUM COST!



↑ *Auditorium of the Elmira Theatre, Elmira, N. Y. (Dipson Circuit) which was completely remodeled, including wall coverings, draperies, stage curtains, and murals, by NOVELTY SCENIC STUDIOS.*

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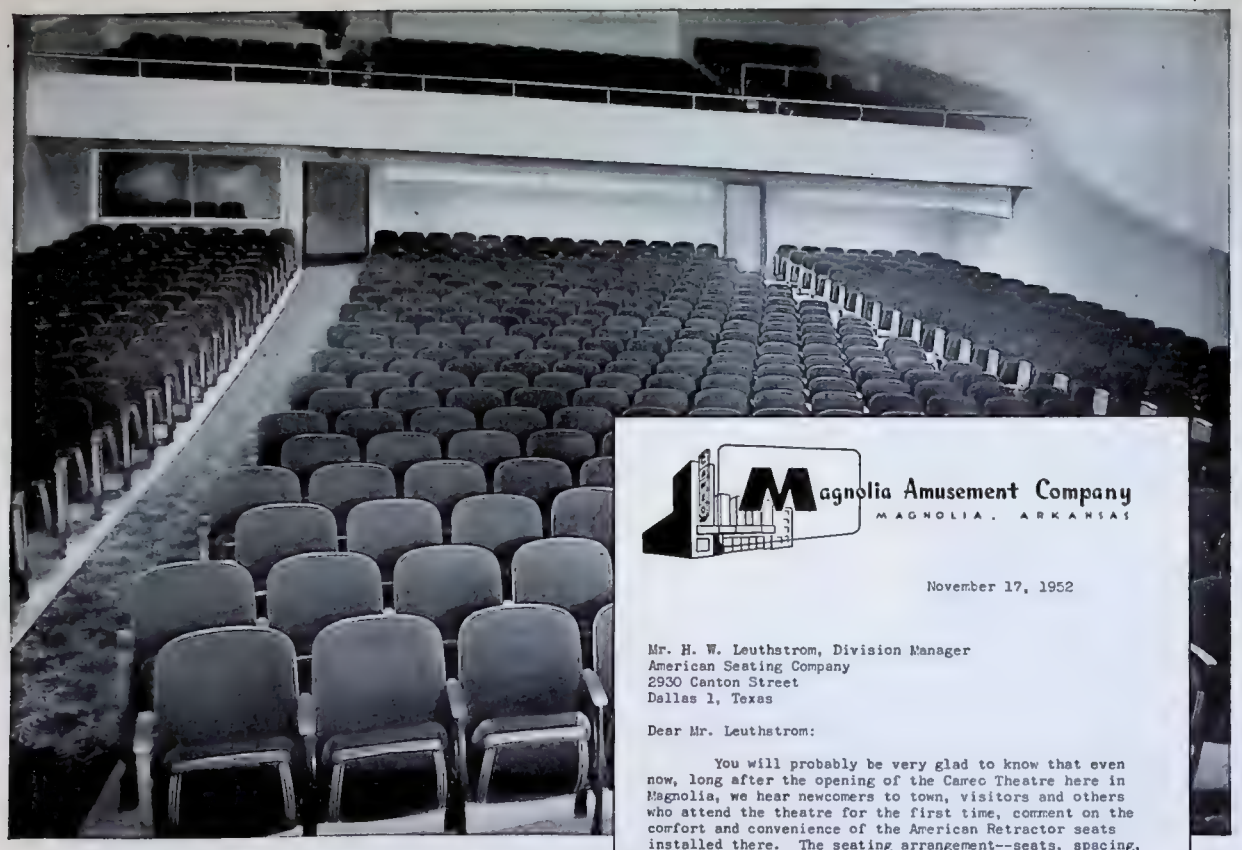

Cameo Theatre, Magnolia, Arkansas
Architects: Ginocchio & Cromwell,
Little Rock, Arkansas

Magnolia Amusement Company
MAGNOLIA, ARKANSAS

November 17, 1952

Mr. H. W. Leuthstrom, Division Manager
American Seating Company
2930 Canton Street
Dallas 1, Texas

Dear Mr. Leuthstrom:

You will probably be very glad to know that even now, long after the opening of the Cameo Theatre here in Magnolia, we hear newcomers to town, visitors and others who attend the theatre for the first time, comment on the comfort and convenience of the American Retractor seats installed there. The seating arrangement--seats, spacing, etc.--remains one of the outstanding features of the house.

Furthermore, they are holding up well and still look very nice. The red mohair covering material still retains the rich, full color it had when the seats were installed.

Sincerely,

W. P. Florence, Jr.

W. P. Florence, Jr.

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- **Dry floor coverings after shampooing right where they lie. Take up suds from bare floors, slush and wet dirt from lobbies.**
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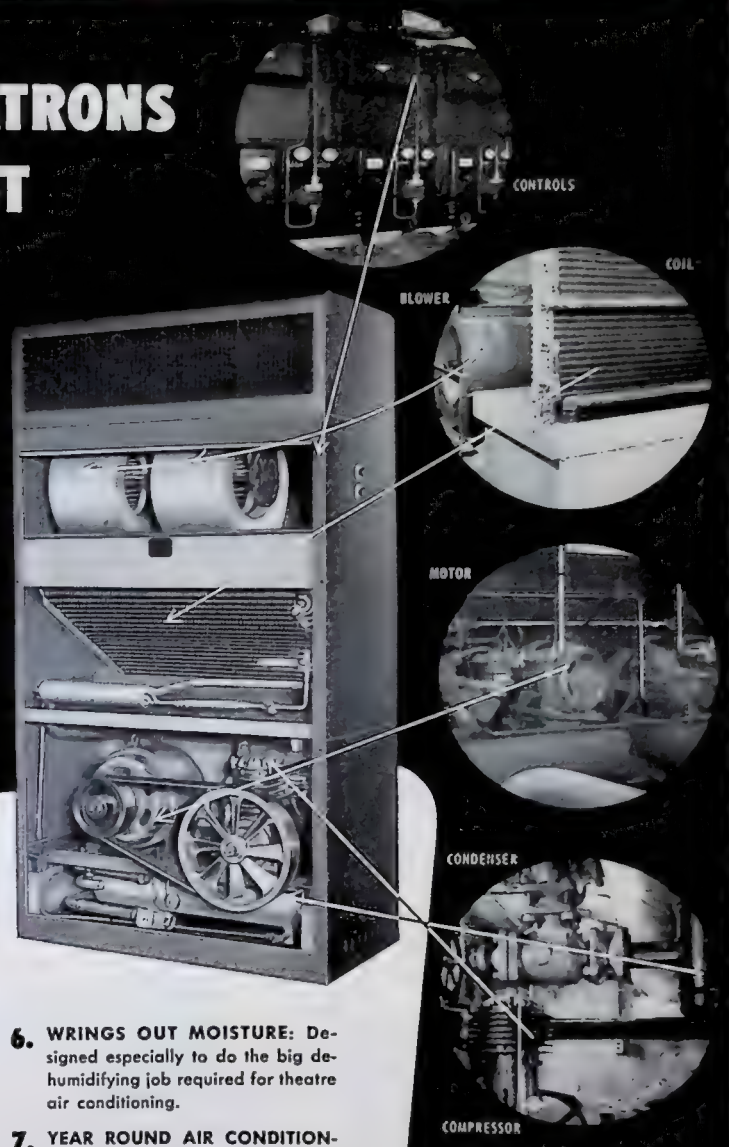

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PROJECTION *and* SOUND

1953-54

Cinerama Arrives

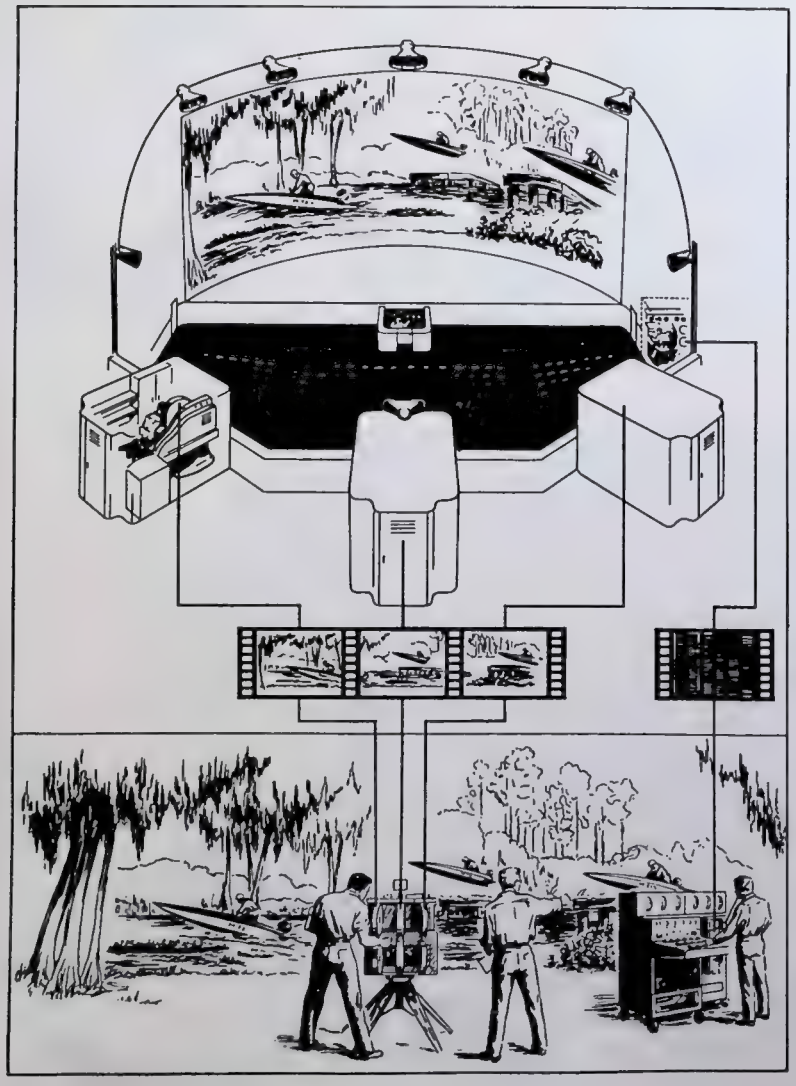
Detailed Account of the Problems Encountered in the Initial Cinerama Theatre Installation

By WILLIAM R. LATADY
Director of Installation for Cinerama, Inc.

Cinerama is the bombshell that started the explosion of many fragments in the minds of optical engineers of the motion picture industry in general. Although Cinerama had been under development for 14 years and had been available for demonstration to the public for perhaps three years, it was not until September 30, 1952 that a Cinerama performance was finally presented to the public at the Broadway Theatre in New York. This so-called "impractical system" so impressed the first audiences that the repercussion of their applause was heard around the world. True, the system is more complicated than the standard motion picture process in use for the past 25 years, but this has been necessary in the initial stages, because standardized equipment was utilized and adapted to create the illusion that Cinerama does so well. This illusion is the feeling of being present on the spot where the picture was taken. It gives the audience the feeling that they are participating in the action which they are viewing on the screen.

The triple projector system necessary to encompass a field of 146 degrees and the seven track stereophonic sound system are the secrets to the magic which you view when attending a performance. Present optical design does not permit such a wide field in a single system with one lens. However, further developments will simplify this process without sacrifice to the quality of the show.

THE METHOD OF TAKING AND PROJECTING the film and sound to create the full Cinerama effect of realistic participation is graphically illustrated in the schematic diagram, as seen below.



DEVELOPMENT

To start with the development of the Cinerama process, we must go back 14 years to the time when Fred Waller first conceived the idea of the creation of an illusion of three dimensions by the use of peripheral vision. From the first idea to the final Cinerama concept many systems were developed and tested, the most startling of which was an 11 lens camera and projector that formed an image on the inside of a partial sphere. This, of course, was terribly effective, but not conducive to exhibition in any of the existing theatres, or to a large audience. That system was modified into a seven-eyed monster, which after further research and experimentation was finally simplified into the present three-eyed wonder. Following this to a logical conclusion, we would expect that the next advance would be the use of a single lens system. This, of course, with our present knowledge of optics, is a Jules Vernion projection of thoughts into the future.

BRIEF: ***The opening of Cinerama in New York may well be considered as one of the history making events in the motion picture business . . . This new and exciting form of film entertainment was met with enthusiasm by the public and industry alike . . . The triple projector system with a seven track stereophonic sound system created installation difficulties which required original and unique solutions . . . Since there was no previous experience to draw upon . . . brand new and untried tactics had to be used.***

The 1950-51 edition of THEATRE CATALOG carried one of the earliest stories about the then experimental system . . . In keeping with its policy of reporting the progress made on new developments . . . we are presenting this article written by the man who was in charge of the first theatre installation of Cinerama . . . In it will be found an account of how it was installed . . . the equipment used . . . and some predictions about future applications of Cinerama.

Waller had created an environmental feeling of participation in the action by the viewers from the point of view of sight; the next thing was to create the same illusion by means of sound, to complete the effect. Paralleling Waller's development of an optical system was Hazard E. Reeves' work in the perfection of the use of magnetic tape for sound reproduction. Upon the standard 35mm tape he placed seven separate tracks, such that the response was far greater than anything that had ever been recorded in an optical process. By specially placing the microphones used in picking up an orchestra and by placing speakers in the same position, a realism was created which startled even the musicians themselves. So true was this sound that it was difficult, if not impossible, to tell when the orchestra was playing and when the sound was being played back through the sound system, if one could not see the musicians. With Waller's development and Reeves' creation married and acting as one, the new illusion was complete.

With this special baby for entertaining the world at large now developed and ready for use, the next problem was to place it in a theatre so that it could be seen. Many long hours were spent in the discussion of what would be shown to the public to best introduce this new brain-child. Discussions followed this line: giving a great musical, or a dramatic play — perhaps a wild Western, or a thriller-chiller that would startle the audience. Those who discussed these points all had their favorites, but it was Lowell Thomas who finally won out in his persuasion to make *Cinerama* the hero. He felt that the audience should appreciate what this new medium could give to them, and not like or dislike the particular dramatic sequence that was being shown. I am sure that the present presentation of "THIS IS CINERAMA" bears tribute to Thomas's fine judgment of what the public wants to see.

Great chances were taken with the Cinerama camera as the production crew paddled down the canals of Venice or strapped it into the nose of a B-25 and flew through the canyons of the Western parks. Many days and nights were spent in cutting this film on improvised moviolas and rewind equipment that was not built for the purpose of handling six perforation frames and 8000 foot reels. However, with the many obstacles that were found at each turn of the road, "THIS IS CINERAMA" was made ready to show.

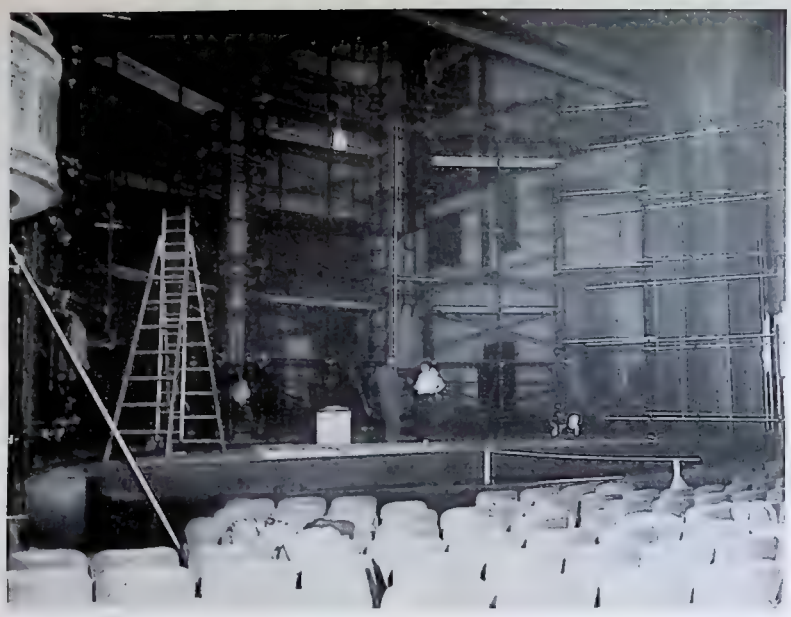
The next step was to create a showplace where our new system and new production could be exhibited. Again, after much deliberation, the Broadway Theatre on Broadway in New York City was chosen. We soon discovered that the Cinerama system was new in all its aspects, for the Broadway Theatre was designed for stage shows, and adaptable to the standard type of picture. Not so for Cinerama! The proscenium was too narrow, the balcony was too low, the floor was not strong enough, and the boxes were in the way. Despite these disadvantages we put Cinerama into the theatre, and presented a spectacle that was larger and greater than anything previously seen or heard by a New York theatre audience. The editor of the New York Times rushed out of the theatre after the final curtain, knocking down a doorman in order to get a front-page story into the Times the following morning. Skeptics, critics and executives of the movie world could not believe that Waller's development in a tennis court in Oyster Bay could ever be like this. The fundamentally simple ideas for the multiplicity of one single film and track had been woven into such a clever device as to give an unbelievable result.

THE BROADWAY AFTER INSTALLATION of Cinerama booths. Note the larger projection and observation ports for operator. The long, horizontal structure at the top of the center booth is the special duct for exhausting and cooling the booths. Some orchestra seats had to be eliminated.

INSTALLATION

The installation of the Cinerama equipment into the Broadway Theatre entailed a great many interesting, if not revolutionary, ideas to theatre people on all sides. Whoever heard of putting a booth in the middle of the orchestra floor? Cinerama put three of them in the orchestra! This had to be done in order to project the three pictures onto a large, curved screen to form one continuous image. The booths were made as close as possible to a standard New York-approved booth. All of the safety devices normally used were provided, such as automatic safety shutters, fire extin-

THIS VIEW OF THE BROADWAY prior to the Cinerama installation shows the original appearance of the balcony and orchestra before structural changes were made and orchestra seats eliminated.

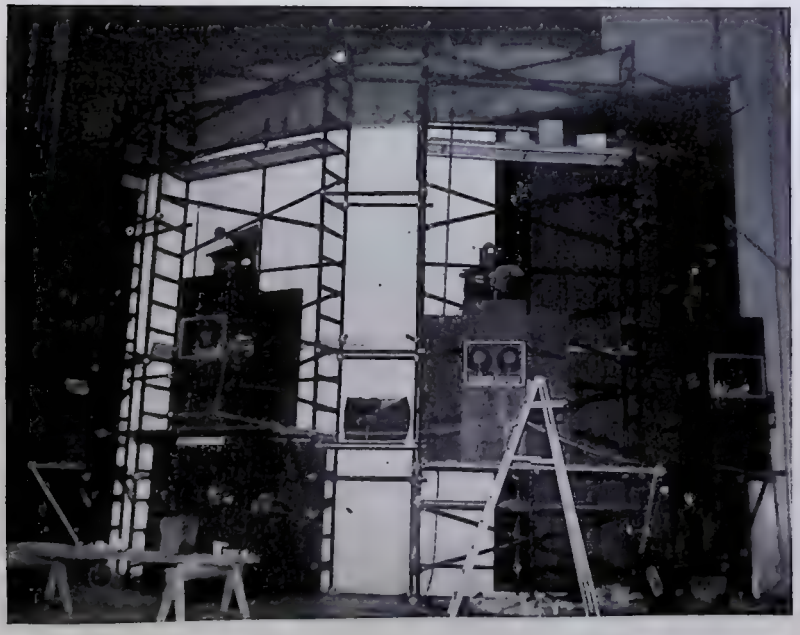


THE TREMENDOUS CINERAMA SCREEN necessitated an installation technique which had been unheard of in theatre operation. A network of scaffolding was required to handle the detailed and amazing job.

guishers, and a complete and separate ventilation system, which exhausted the air from each booth once every three minutes directly to the outside air. Fresh air was brought from the outside directly to each booth for the comfort of the operators. Each booth contained a single projector using magazines for 8000 feet of film, which would run our non-standard film (speed of 146.25 feet per minute) for about 50 minutes. Also in this booth a control panel was installed for the operation of the projector and the coordination of that one projector with the rest of the system. This panel also has a servo amplifier, a power amplifier for the auditorium speakers, and an intercom so that the operator can at all times be in communication with the man running the show. Only one operator is present in a booth for each show, since each booth holds only one projector. The high cost of the specially developed equipment and the space on the orchestra floor dictates that the show must be run in this manner.

Many miles of wire were put into the theatre in order to supply the power, the intercommunications, and the audio connections to each of these booths. Three phase and single phase 110V, 220V and DC were run into each booth. 24V DC for control systems was also connected from booth to booth. All of this had to be approved by the authorities in the city, who were slightly awed by the whole thing. Just what was this Cinerama, and what would it do? Was it dangerous to have in a theatre, and after all, was it worth while putting it in? Everyone was questioning and skeptical, certainly about it staying more than two weeks.

THIS BACKSTAGE VIEW gives an insight into the mechanism of the stereophonic sound system. Note the contrast with the standard theatre sound system in the center below the Cinerama network.



Equipment

To get back to the installation itself, besides the three booths, a special curved screen and curtain must be installed. This screen filled the complete proscenium arch and protruded on either side approximately eight feet out into the orchestra. The two proscenium boxes had to come out and so a wrecking crew knocked them down. This screen had to be supported, and since it was out beyond the proscenium, the gridiron was of no use beyond this point. A special portable aluminum scaffold had been designed which could quickly be installed in a standard manner in a standard theatre. Alas, the Broadway was no standard theatre for Cinerama. And so, it was adapted to fit around the configuration of the proscenium. A great curved track had been specially built and then rebuilt to fit into the niches of this theatre. Vertically moving masking curtains, both top and bottom, were also installed. All of these curtains, masks and scaffolding were new to the theatrical world. The house carpenter, who was over 70, had rigged a lot of peculiar things in his days, but he never saw anything quite like this. This monstrous screen covered everything behind stage and went out into the audience, enabling them to observe a show that was twice as large as any legitimate show they had ever seen before. This brought up an all important question. What about the lowering of the asbestos curtain? How could this be done with the screen in the way? The answer, of course, was that it could not be lowered. A special dispensation had to be granted to us by the Fire Department in order to tie off and make inoperative this curtain; and this consent was given to us on condition that the backstage area would be completely cleared of inflammable material, and that it would not be used. Also, no persons were to be there except the house electricians. In retrospect, this is simple to say — but the granting of this special ruling was a long and complicated process entailing many discussions with the authorities.

Five groups of speakers were placed on the large scaffold backstage, oriented such that the projected sound covered the theatre evenly. Each of these speakers was fed by a separate track on the sound film, which was on a fourth projector placed in the standard projection booth upstairs. This sound projector was the master control for the three

slave picture projectors in the synchronization system. Once the system was up to speed, snychronization was automatically controlled by the three phase motors driving each of the four projectors. In addition, however, a special motor and differential unit were placed in each of the picture projectors to add or subtract frames while the show was in motion. This was done in case the projectionists misframed or the film was incorrectly cut. This system is unique in itself, being the first of its type where a correction in synchronization can be made after the starter switch has been thrown.

Control Board

The nerve center of this system is at a control board which was placed in this installation in the orchestra pit. This panel is manned by the engineer in charge of the operation of the show. He starts and stops all of the projectors with a throw of a switch after the individual in each booth has thrown his system from "local" to "remote." He can add or subtract frames during the running of a show. He can lighten or brighten each individual panel during the course of the presentation of the picture. He is also the intermediary through whom all messages go. The intercoms do not go from booth to booth, but go from each booth to the control console, so that all messages come first to the nerve center for registration. Signal lights keep him constantly posted on the operation of all this equipment. He can further control the volume of the sound in the theatre on all speakers, either separately or together, and he can "patch" in the sound on the different groups of the eight auditorium speakers. In our Cinerama show this console operator is the bandleader who directs the musicians, at their machines to better the performance.

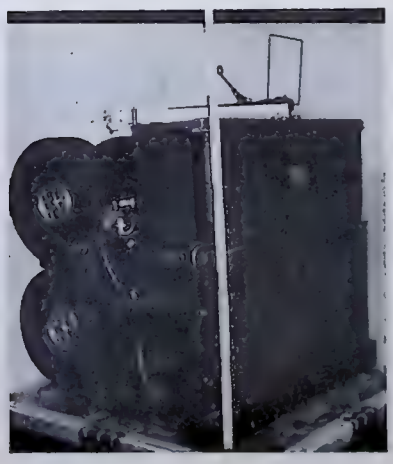
As if three booths, a special console house, and a fourth projector in the standard booth were not enough, we further provided additional space, where from time to time all four prints could be united in one sync machine to be checked. There was no room in the cramped quarters of the booth, and even smaller manager's office of the Broadway, so a wardrobe in the basement was rebuilt with new linoleum floor and shiny white walls to be used for film inspection and replacement of worn parts. No one, including Eastman-Kodak, had ever run film continuously at 146 feet per minute. No one was able to predict how long it would last under such treatment. This room provided a basis of operation for research on this subject. In the early stages all of the film was rewound here, as we believed very special care must be taken of it. We later found that by the insistence of proven methods it could be rewound in the booths as is normally the case.

Operation

Finally, one week before opening night, installation of the Cinerama system was completed. Projectors had been aligned so that magnification of all three were equal, and the three films so positioned that they formed one image. All of the wires were "buzzed" and the speakers placed in the best position for the optimum effect. Everything was in readiness as far as the system was concerned, but there was one element which had not been taken care of to date. The engineers who had developed the system had been so busy putting it in, aligning it, and operating it, that they had forgotten that they were not the ones who would be running the show. Naturally, as in all cases, the New York projectionists would take over and keep the ball rolling as they had been doing for so many years. We almost forgot that this was not standard equipment and that no one, including fellows who had worked at the business for 30 years, had ever run the Cinerama projectors. We immediately wrote specifications for a training course and put this into effect. Operation of the Cinerama equipment required far more attention by the operators than previously necessary, since there was a continuous problem of framing the pictures and adjusting carbons at the onset. The coordination necessary for five people to work in five different locales required the skill of a basketball team. No longer were the fellows working as individuals, but as a group, who only

THIS SEPARATE SOUND TRACK is the master control unit for the synchro system and is responsible for the stereophonic sound system used in Cinerama. Note the eight thousand foot reels used for an uninterrupted fifty minute show. Audience reaction attests to the realistic effects which are created.

THIS IS THE FIRST three-lens camera with which the film "This Is Cinerama" was taken.



THE COMPLETED CINERAMA SCREEN at the Broadway is made up of more than one thousand louvres which appear to be a solid sheet. Note the size compared to the width of the stage.

THE CONTROL RACK is shown at the right in this view of the Cinerama projection booth.

when they worked together could they make a successful showing.

Many problems arose and were solved during this week concerning the running of the show — specifically the handling of the film, which is on reels 30 inches in diameter weighing 40 pounds.

September 30 arrived too soon for those who were working desperately to make sure that everything was perfect. An audience of curious and adventuresome people arrived that night to witness the first performance. The reception that was received startled those who had produced the show as much as anyone else. We felt that this was a revolutionary process, that there was nothing like it; but then, we believed in it. The people who saw the show that night had seen it for the first time, and they acclaimed it far more than we dared to. The next morning the New York Times placed the performance several rungs above the advent of sound and substantiated our claims for the new and revolutionary process. The lines at the ticket office went around the block. Cinerama has been a sell-out in New York since that day.

CONCLUSIONS

Our policy at Cinerama has been to try to bring back the feeling of the theatre to a motion picture audience in the manner of exhibition. We want to make a performance first-class in every way including the treatment given to individuals who come to the theatre to be entertained. Only "hard" tickets are sold, guaranteeing everyone a reserved seat. Because so much entertainment is provided today in the home, we think it is important to create an atmosphere of showmanship when people go out for an evening's entertainment. We believe that Cinerama will always be a premium type show to be exhibited only in the large cities of the world. We expect that this will be limited to approximately 100 cities strategically placed, so that the greatest number of people will be able to see this new type of entertainment.

There are now many processes rivalling Cinerama. Some are of similar nature in concept and some are gimmicks to suck in the passing curiosity seeker. None to date have succeeded in creating the true Cinerama feeling which physically moves the audience to follow the action on the screen.

We feel that even with this tremendous moving power the final value of our entertainment is the show. Great shows have been created and more are still to come. With Cinerama the good can be great and the great far greater!

Old Films Get The New Look

A Description of the Systems Which Can Take Standard Product, and Show it on Newly Developed Wide Screens

BRIEF: *As a result of the unexpected and sudden emergence of new wide screen techniques . . . producers and exhibitors find themselves with millions of dollars tied up in ordinary films that have already been completed . . . It is of course economically impossible to simply write off this backlog and switch to these recent innovations.*

To combat this perplexing problem . . . major studios . . . with their vast research facilities . . . and individuals with limited resources . . . but ambition as the driving force . . . have been striving to work out a practical solution . . . This article discusses three systems which . . . although differing in approach . . . have a feature which makes it possible to show a film made before wide screens emerged . . . and present it with the new modern look . . . Each of the screens can easily be made adaptable for the showing of 3-D and ordinary 2-D films . . . as well as the wide screen offerings.

At the present time the entire motion picture industry is going through an exciting, but trying period of transition. After perhaps more years than was wise, movies are being given a new look. Although these new developments were long needed and long awaited, the changeover period is always one which creates confusing and perplexing problems. One of the greatest of the current difficulties is, what to do with the vast backlog of films that were prepared in the conventional manner? The investment is certainly too great to be marked off the books, and yet no exhibitor wishes to be left out of presenting his patrons with the latest developments.

A number of major studios and individuals have been working on this problem. Some of them have come up with what they believe to be the answer to the question of how to give an ordinary 2-D picture the new wide screen look. At the moment it is impossible to convert flat 2-D films into 3-D offerings, therefore, the only possible thing that can be done is to present them on a wider screen.

Naturally, each individual theatreman must make his own decision based on his needs and resources. The editors of THEATRE CATALOG are neither endorsing or condemning the systems offered here, but merely present the facts so that each may decide as he pleases.

PARAMOUNT

Most of the proposed new technical developments will not become available for practical use in exhibition by a great majority of theatres for quite a few months to come. Therefore, the logical question uppermost in exhibitors' minds is: How can I improve my business today, tomorrow, and in the foreseeable future?

There is one point on which everyone seems to agree: A larger and wider screen results in a bigger and better show with an exciting new look.

Paramount Studios Research division, has developed a new screen with, among other new elements, a different viewing shape with an aspect ratio of 1:66 to 1:00. This simply means that the new screen is 1:66 feet in width to every one foot in height. The aspect ratio of the normal theatre screen in theatres now is 1:33 to 1:00.

Many exhibitors and others who have seen demonstrations of the new Paramount screen with its associated framing, seem to feel that it presents pictures better, bigger, and more excitingly. The reasons given are:

1. The lidded human eye being oval in shape, people normally see greater width than height. Paramount research and tests reveal that the 1:66 to 1:00 ratio comes closest to what people normally see in everyday life.

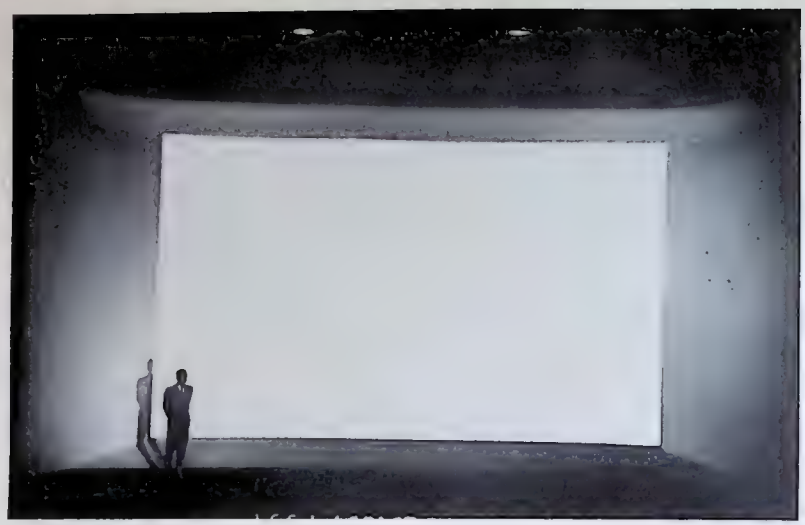
2. Almost all theatres will find that the 1:66 to 1:00 ratio enables them to increase the size of their present screens but to do it practically, within their theatre space available for a screen, quickly, and comparatively inexpensively. They will have a larger screen without cutting much off the top and bottom because of balcony overhang, etc.

Paramount contends that with their new screen, exhibitors can start immediately to cash in on the enhanced values, screen-wise and publicity-wise, of the large supply of good pictures currently available, and to be available not only from Paramount, but from other studios.

The 1:66 to 1:00 Paramount ratio gives the exhibitor an opportunity to book and show with complete confidence on the same new look screen, not only the pictures to come from that studio, but also the pictures of all companies announced for showing on the present-day normal 1:33 to 1:00 screens, and the pictures announced and to be announced for showing 1:75 and 1:85, and any other intermediate aspect ratio.

Installation and operation of this new screen requires a relatively modest out-

AN ARTIST'S CONCEPTION OF THE NEW PARAMOUNT PANORAMIC SCREEN is shown here. Since this represents a view from a side angle, it dramatically demonstrates the curvature.



THIS IS A FRONT VIEW of an actual installation of the Paramount panoramic screen.

lay for a screen, a new lens, and an altered aperture plate in the projector.

The shape of this screen and its surroundings are important in giving a panoramic and wide screen effect in theatres. It is important that every detail of construction is closely adhered to if theatres are to obtain the maximum effect on audiences which Paramount feels has been found possible.

TECHNICAL DESCRIPTION

The Paramount panoramic screen offers several improvements in picture presentation. It is larger than the screen normally used, and wider with respect to its height. The illusion of a curved front and appearance to the theatre is enhanced by curving the screen itself, and framing it with surrounds or wings that are also curved. The screen may be metallic finish so that the same screen can be used for the playing of both 3-D and 2-D pictures. It is strongly recommended that adequate light be made available so that a clear, bright picture will be presented to the audience.

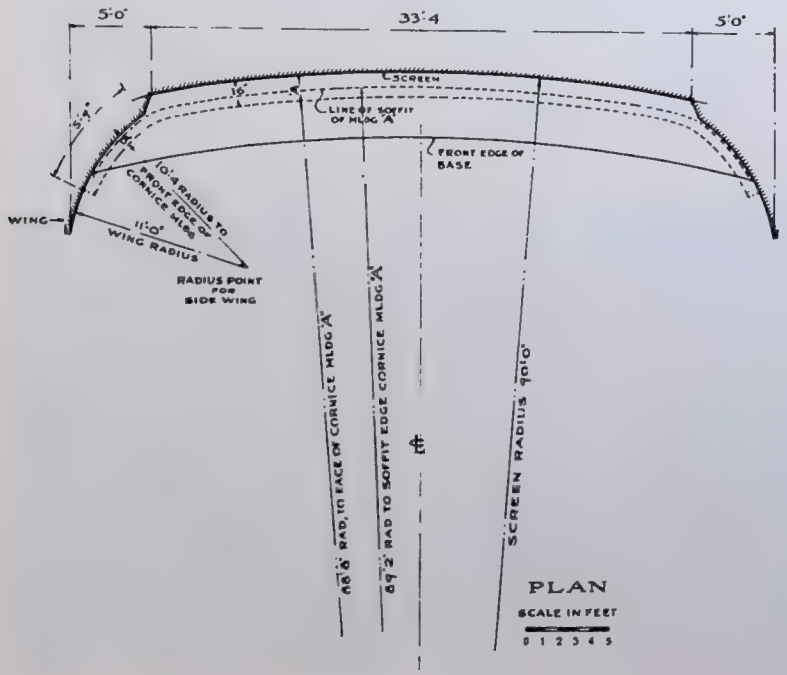
Surround and Curvature

The surround portion of the screen closely resembles the design of Schlanger and Hoffberg, theatre architects and engineers of New York, which is incorporated in the Synchro-Screen distributed by RCA. Surrounds of different shapes are also being produced and distributed by other theatre suppliers.

The radius of the screen illustrated in this article is shown as 90 feet, which would apply to a house with a projection throw of about 120 feet. This curvature will vary somewhat, depending upon the width of the house and the projection throw. For normal houses, the radius of curvature should be equal to, or greater than three-quarters of the distance from the center of the screen to the projector, assuming that the projector is not further forward than the last row of seats. In very wide houses, the radius should be approximately equal to the projector throw.

For a given radius of curvature of the screen, the depth of the curve increases as the screen is made wider. It is also true that for a given width of screen, the depth becomes less as the radius increases. If the width of the screen is fixed, ratios such as 1:75 and 1:85 can be shown with the same lens used for the 1:66 ratio, by simply exchanging the aperture plate in the projector. If the full height of the screen is to be used, however, with the 1:75 or 1:85 ratio, the side masking must be moved out to allow for a longer picture, the lens changed to one of shorter focal length, and the aperture plate also changed.

THE PANORAMIC SCREEN AND SURROUNDS are indicated here in plan-view, published by courtesy of Schlanger and Hoffberg, Theatre Architects and Engineers, of New York City.



Dimensions

With respect to the cornice, base, and wings, Paramount recommends retaining the same cross-sectional dimensions for all screen sizes. In these cases the cornice, base and wings will be made longer or shorter as required to meet the new screen dimensions.

In all installations the wings should retain approximately the same angle with respect to a straight line drawn across the front of the screen.

The cornice, base, and wings are in effect a picture frame that is made larger or smaller to meet the size of the picture.

The following table lists picture heights for different picture widths. It may be necessary to vary the picture size from these specified dimensions in order to comply with available lens sizes.

Picture Widths in feet	*Picture Heights in feet*
50′	30′-2″
46′	27′-8″
42′	25′-4″
38′	22′-11″
34′	20′-6″
33′-4″	20′
32′	19′-3″
30′	18′-1″
28′	16′-11″
26′	15′-8″
24′	14′-6″
22′	13′-3″
20′	12′-1″
18′	10′-10″
16′	9′-8″

The actual screen sheet size, including grommets and binding, will, of course, be about two feet greater in each direction. If additional width is to be allowed for other forms of presentation, the screen width and frame should be correspondingly increased.

Install Large Screen

It is recommended that the widest practical screen be installed with a corresponding height at least three-fifths of this width. These larger screen sizes would be limited only by the available light, the vertical and horizontal audience viewing angles, and the front-seat viewing distance. Very large theatres with large prosceniums should be individually considered. In general, such houses will be limited by the maximum useable height of the picture, which in a few cases will exceed the 20 feet used in the example.

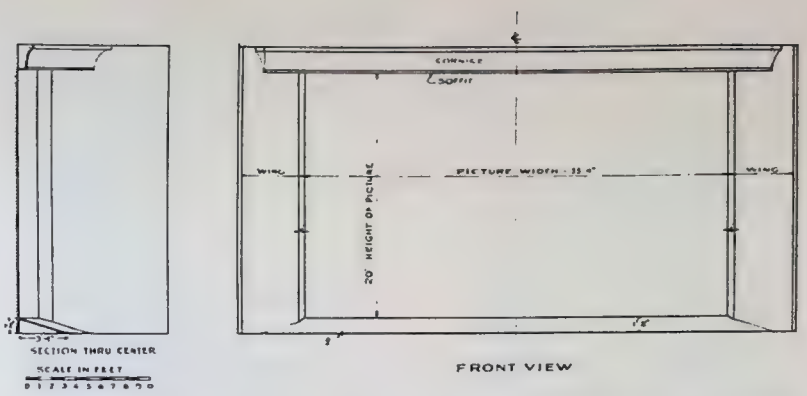
Several factors must be considered in the final selection of a screen size and its location on the stage. These include the vertical sight-line considerations for seats in the back-center and back-sides of the orchestra which may have a limited view of the top of the screen due to the balcony overhang. If a house has a second balcony, the back seats of the first balcony will also have a limited view of the top of the screen due to the overhang of the second balcony. Each house must evaluate its own problem of loss of seats, if any, which may have to be taken in order to gain the advantage of presenting pictures on a much larger screen.

A practical decision as to the screen size is finally made, taking into account the following elements: Available lens sizes coupled with the projection throw; the position of the screen on the stage; and the maximum picture width that will permit the height still to be in a five to three ratio.

Screen Frame

The wings, cornice, and base ramp of the screen could be covered with any of the white materials currently used for 2-D screens. If stereophonic horns are to be located back of the wings, the wing material should be porous, just as for any sound screen. The side surrounds may be mounted on dollies if they must be moved to frame pictures of different sizes, or be moved to clear the stage for live shows.

The surface of the screen must have a metalized coating if the same screen is to be used for both 3-D and 2-D picture presentation. The screen must, of course, be porous for sound. Many manufacturers are developing screen materials with high light return capability and good light distribution.



THE FRONT ELEVATION AND CROSS-SECTION views of panoramic shown above are published by courtesy of Schlanger and Hoffberg, Theatre Architects and Engineers of New York City.

Aperture Plates

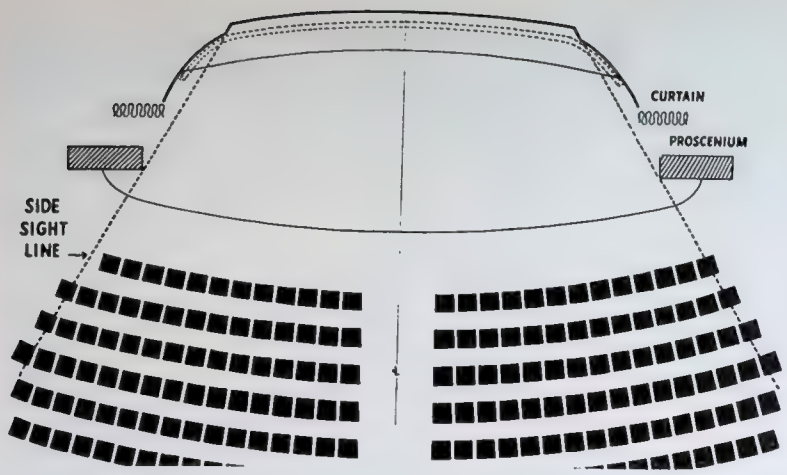
Each aperture plate for the new aspect ratio should be carefully filed to go with its associated projection machine and lens so that the image on the screen will accurately fit the projection area of the screen. For houses with low projection angles, the aperture will be about 0.325 by 0.496 inches. As the projection angle increases, the sides of the aperture should be tapered, the top and bottom curved slightly if the screen is curved, and the height of the aperture gradually reduced.

The minimum height should be 0.470 inches for houses with high projection angles.

In the installation of the new aperture plate, it is recommended that it be placed further from the film than normally, in order to throw the edges of the picture slightly out of focus and produce a soft edge to the picture at the junction of the picture and the surround. No projected light should fall directly on the surround.

BELOW IS A CHART for 1.66:1 aspect ratio giving focal lengths of commercial lenses for various projection distances and picture sizes.

PICTURE SIZE		PROJECTION DISTANCE - FEET												
WIDTH	HEIGHT	60	80	100	110	120	130	140	150	160	170	180	190	200
16'	9'8"	3.00	4.00	5.25	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25
18'	10'6"	2.75	3.50	4.50	5.00	5.50	6.00	6.50	7.00	7.25	7.75	8.25	8.75	9.25
20'	12'	2.50	3.25	4.00	4.50	5.00	5.25	5.75	6.25	6.50	7.00	7.50	7.75	8.25
22'	13'3"	2.25	3.00	3.75	4.00	4.50	4.75	5.25	5.50	6.00	6.50	6.75	7.25	7.50
24'	14'5"	2.00	2.75	3.50	3.75	4.00	4.50	4.75	5.25	5.50	5.75	6.25	6.50	7.00
26'	15'7"	1.75	2.50	3.00	3.50	3.75	4.00	4.50	4.75	5.00	5.50	5.75	6.00	6.25
28'	16'10"		2.25	3.00	3.25	3.50	3.75	4.00	4.50	4.75	5.00	5.25	5.50	5.75
30'	18'		2.00	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.75	5.00	5.25	5.50
32'	19'3"		2.00	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	5.00	5.00
34'	20'6"		1.75	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75
38'	22'9"			2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	3.75	4.00	4.25
42'	25'3"			2.00	2.00	2.25	2.50	2.75	3.00	3.00	3.25	3.50	3.75	4.00
46'	27'7"			1.75	2.00	2.00	2.25	2.50	2.50	2.75	3.00	3.25	3.25	3.50
50'	30'				1.75	2.00	2.00	2.25	2.50	2.50	2.75	3.00	3.00	3.25



SCHEMATIC OF SIDE SIGHT LINES is shown here. Moving the screen forward saves seat loss.

Light

For best presentation of 3-D pictures, the unfiltered incident light should be at least 20-foot candies and preferably 25-foot candles. These readings are taken at the center of the screen, without film, with the projector running, and without the polarizing filter in the projector beam. This assumes an adequate lamp capacity. With a metallic screen, the incident light for 2-D showings need not be quite as high as formerly specified by the SMPTE recommendations, because of the light gain by the metallic screen material. In some cases, it may be necessary to drop the lamp current or screen down the light output for 2-D showings.

SUMMARY

The following information is an attempt to summarize the main points recommended by Paramount to be used in deciding the size of large screen best suited to the individual theatre.

Size of Picture

1. **If height is not the limiting factor:** Then make the width as large as practical, with the height at least three-fifths of this width. If this general rule is followed, the theatre will be equipped with the largest practical screen area. The width should always be increased and the height should never be reduced, even if width limitations prevent obtaining a full change from the old 1:33-to-1:00 to the new 1:66-to-1:00.

2. **If height is the limiting factor:** When height is restricted by vertical sight line limitation or ceiling height, then make the screen height as great as possible, with the screen width at least 1:66 times this height.

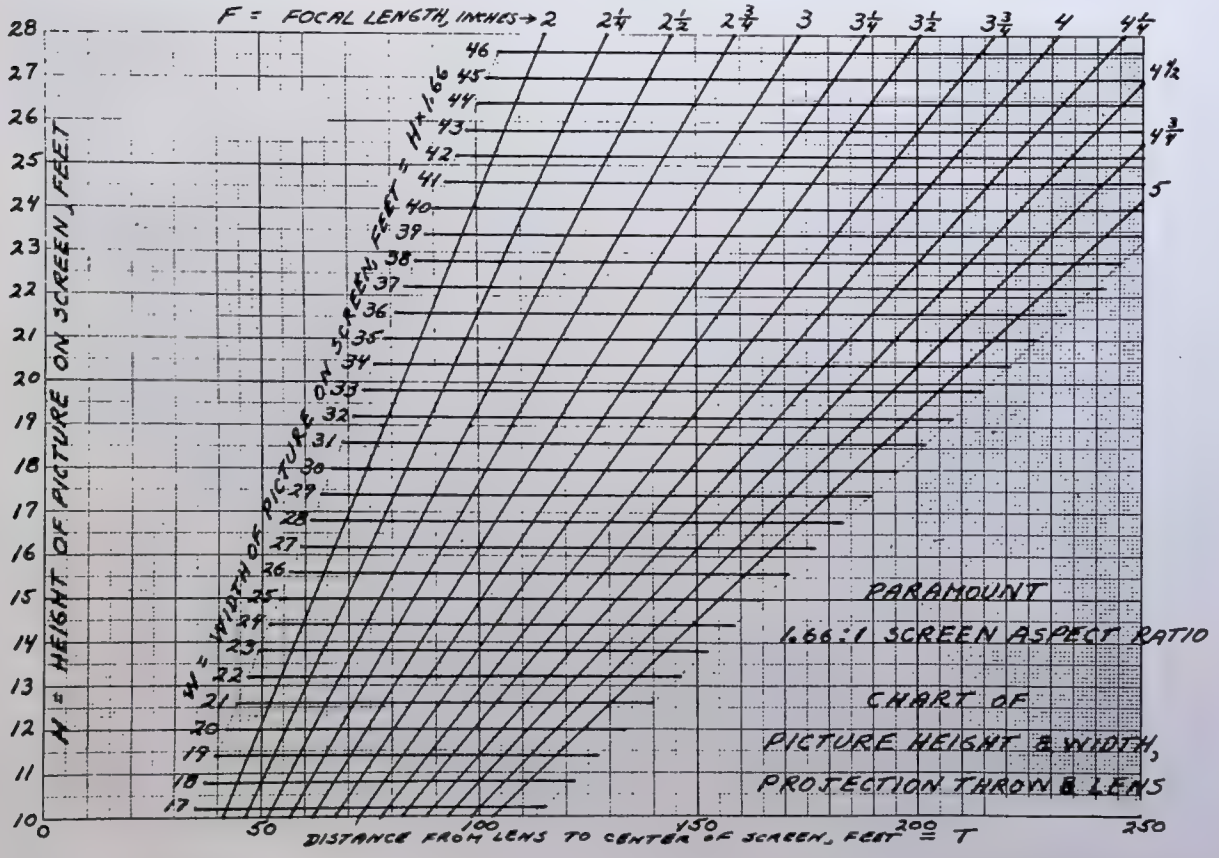
Over-All Screen Size

The over-all sheet size including the binding and grommets, will be about two feet larger than the picture size in both dimensions.

Screen Material

The screen material preferably should have a good metallic type surface with distribution characteristics adequate to cover the side and high balcony seats. It should also retain good polarization at maximum viewing angles. If a metallic

CHART FOR 1.66:1 ASPECT RATIO showing picture height and width, projection throw and lens.



screen is not available, then a large white screen might be installed for the time being to take advantage of the better presentation of motion pictures on the larger screen.

Screen Curvature

For wide, shallow houses the radius of curvature should be approximately equal to the projection throw. For average and narrow houses, the radius of curvature should be about three-fourths of the projection throw.

Screen Tilt

For houses with high balconies, it may be desirable to tilt the screen back a few degrees. A rough rule to follow is to tilt back by:

$$\frac{\text{Projection angle in degrees}}{2} \text{ minus } 3 = \text{degrees of tilt.}$$

For example, if the house has a projection angle of 18 degrees the tilt back would be:

$$\frac{18 \text{ degrees}}{2} \text{ minus } 3 = 6 \text{ degrees of tilt.}$$

New lenticular screen materials are being developed that have the tilt of the reflected light built in as a property of the screen material itself, making unnecessary the tilting of the screen.

Curved Side Wings With Top And Bottom Surround Surfaces

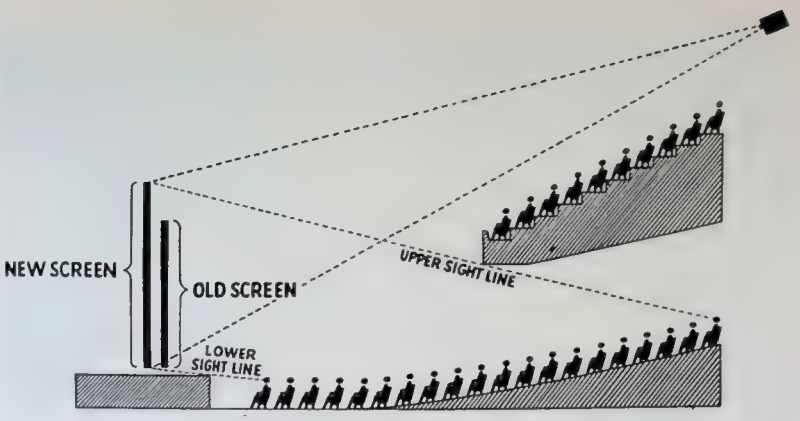
Wherever the structure of the house will permit, it is recommended that a curved screen surround be added to further enhance the curved front end appearance of the theatre. This surround may fit in just back of the proscenium or blend into the side walls of the theatre. Depending upon the requirements of the individual house, the surround elements may be mounted separately from the screen to permit movement. The screen frame as well can be mounted on a dolly if necessary.

Front, Side, and Back Seating Problems

The installation of the larger screen may cause some of the front seats to become less desirable, while architectural interferences may limit somewhat the usability of some of the back and side seats. The advantages of the better presentation by the larger screen should offset the possible loss of some of these seats.

Aperture Plates

For houses with very flat projection angles, the size of the aperture plate will be approximately 0.825 inches by 0.496 inches to give the desired 1:66 : 1:00 screen aspect ratio. As the projection angle increases, the aperture plate must be shaped with slanted sides and the height of the aperture plate gradually reduced to retain the same 1:66 : 1:00 screen aspect ratio. In no case, however, should this height be less than 0.470 inches. If the screen is curved, the top and bottom of the aperture also will be slightly curved. If the screen is in a surround, it is desirable to have the aperture plate slightly out of focus so as to give a soft blending of the picture into the edges of the surround.



SCHEMATIC VIEW OF UPPER AND LOWER SIGHT lines in relation to height of panoramic screen demonstrates the problem created by a balcony overhang in limiting view from the rear orchestra seats.

Projection Machines

As the screen size is increased more light is needed. This may be obtained by a combination of one or more of the following:

(1) Good metallic screen materials, since more light is reflected from these than from white materials.
(2) Faster lenses, if needed.
(3) More efficient shutter blades.
(4) Elimination of glass in projection ports, if possible; otherwise, have the projection glasses made of thin water-white clear optical glass, with both surfaces coated to reduce surface reflection losses.
(5) More efficient heat filters, if needed, or the possible use of double air jet cooling of the film in the gate to eliminate the light loss of the heat filter.
(6) Larger lamp houses with more efficient mirrors or condenser lenses and probably larger carbons running at higher amperage.
(7) Excellent maintenance and operation of all parts of the projection equipment.

UNIVERSAL-INTERNATIONAL

As a result of the desire on the part of Universal-International to help the average exhibitor improve his presentation of motion pictures, their studio technicians developed a new wide screen equipped for stereophonic sound.

Danger

One of the great dangers of a revolutionary technical advance in the film industry is the possibility of making obsolete all previously made pictures. This, of course, would work a great hardship on exhibitors depriving them of films necessary to keep their theatre in operation during the transition period.

For this reason, U-I technicians approached the problem with the aim of

THE NEW UNIVERSAL-INTERNATIONAL screen is shown in the initial stage of its installation at Loew's State in New York City.

THE LOEW STATE Universal-International screen installation near the final completion stages.

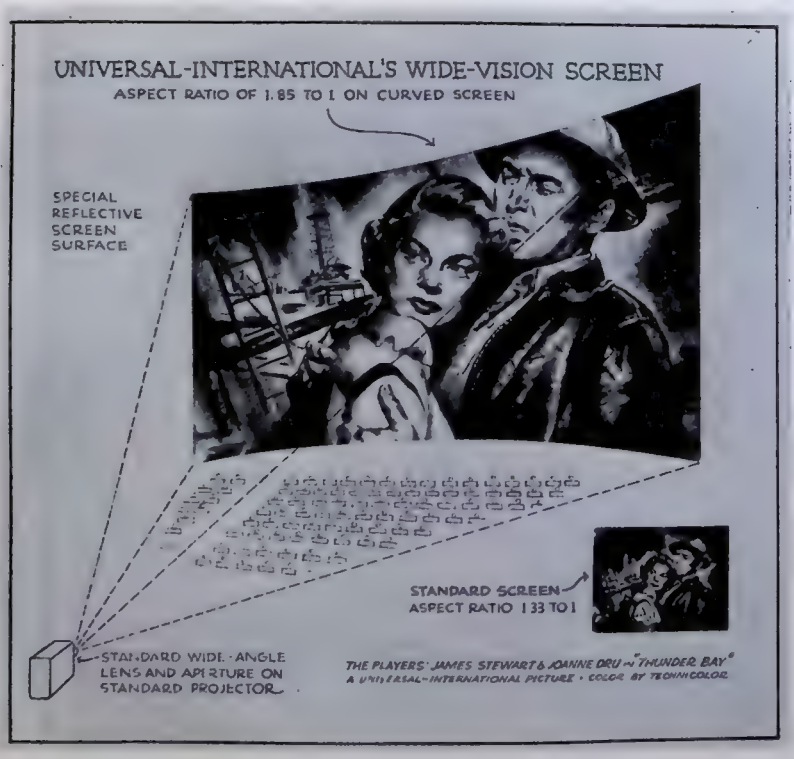
perfecting new methods of making and exhibiting pictures without rendering useless the industry's vast backlog of already completed films.

Because of the length of time required from the start of a picture until it is ready for release, these films which already are completed, are the exhibitor's guarantee of being able to keep his theatre in operation during this period of technical changes.

Therefore, what was needed was a means of giving a "new look" to today's standard films, while at the same time getting ready for the improved films of tomorrow.

Universal feels that this goal has been achieved.

ARTIST'S CONCEPTION CONTRASTS U-I aspect ratio 1.85 on curved screen with conventional screen.



The U-I Screen

Universal's new wide screen is said to be an all-purpose screen adaptable to today's standard pictures projected either in standard or large size, as well as new pictures filmed in either two or three dimensions especially for the new wide screen. In other words, this screen can take any picture having an aspect ratio up to two to one, including today's standard 1:33 to 1:00.

In cooperation with the Research Council of the Motion Picture Producers Association, U-I's special photographic effects department some months ago launched into extensive research and experimentation having a two-fold aim — larger and sharper pictures without using more light, and if possible using less light in theatre projectors.

Tests Conducted

Employing a Gonio photometer for testing light reflection qualities and an Eastman neutral test card as a starting point, tests were carried on for many weeks. The Eastman neutral test card has a 90 per cent diffuse reflectance which is approximately the same reflective quality as that of today's best theatre screens.

Using a great variety of materials and coatings, the experiments were carried on along strict mathematical lines, and followed formulas which already had been proven in light reflection tests.

After weeks of experimentation it was discovered that a larger and brighter picture could best be achieved by spray coating a textile surface with aluminum powder and giving the screen a moderate curvature. The head of the scenic department finally devised a sprayed surface which was far superior to any other U-I tested.

Then it was decided to actually construct a full sized screen measuring 25 feet in height and 50 feet in width for the purpose of additional full scale experiments. Since the studio did not have a projection room large enough to accommodate a screen of this size, an entire sound stage was taken over for the project.

While the test screen measured 25 by 50 feet, it need not necessarily be this size. In fact, it can be of whatever size is most suitable to a particular theatre as long as the two to one ratio is maintained.

The screen, curved on a 90 foot radius, is made of a textile sprayed with the aluminum solution developed by U-I. It has a light magnifying factor of approximately four to one, as compared to present theatrical screens of less than one. In other words, the light transmitted to the screen by the projection machine is magnified approximately four times by the screen re-transmitting the light back to the viewing audience. The reason for this light magnifying power is that the coated surface of the screen reflects the light in direct rays rather than diffusing it as happens when the light strikes a white fabric screen.

Masking

The screen is masked on all four sides with a strip of material two to three feet wide which comes out from the edges of the screen at about a 45 degree angle. More simply, the screen is framed, much as you would frame a painting.

This masking serves several purposes. One is that it improves the artistic appearance of the screen in a theatre. Also, from a standpoint of audience enjoyment, it is important that the picture not be fixed in space, as would be the case without the masking. Actually, audiences aren't too conscious of the fact that the picture they are viewing is in a frame, so to speak. They merely have a sense of participating in the presentation.

Another purpose served by the masking, which can be of almost any textile material which is not coated, is that it reflects a certain amount of light back on to the screen, thus giving the extreme edges of the picture the same brightness as the center.

Screen Improvements

Experiments conducted up to this point indicate that the possibilities for improvements in screens are much greater than was first anticipated. In fact, it is very possible that future developments will permit the use of a less powerful light in the projector with a resulting sharper picture on the screen.

While this may seem incongruous, it nevertheless is true. The amount of light now used, which is necessary to make the picture sufficiently bright, generates such heat as to cause a barely perceptible flutter of the film as it passes through the projector. Thus cutting down on the light and its accompanying heat would eliminate this flutter, thereby making the picture sharper. And the further improved screen would give the picture the desired brightness.

For the most perfect results, Universal believes that the new curved wide screen should be custom made for the theatre in which it is to be installed. However, since the cost of such installations would be too high for many houses, screens can be made in six standard types adaptable to the six standard types of theatres now in existence.

Adaptability

The 25 by 50 foot test screen made by U-I obviously was intended to accommodate pictures filmed on a two to one ratio. It also has proven very successful for already completed pictures shown on a 1:85 to 1:00 ratio. This means that the picture on the screen measures 23 and a half feet by 43 and a half feet, as against today's standard picture measuring 18 by 24 feet.

Projection of these already completed films is achieved simply through equipping the projector with a standard lens of a somewhat wider angle than that now used for normal projection. The value for such wide screen projection of already completed films is obvious.

In order to take advantage of the full two to one ratio of the screen for future productions, it is necessary only to equip the camera with a standard wide angle lens which will give this ratio to the picture at the time it is being filmed.

THE PHOTORAMA screen measuring 50 by 30 feet in the Paramount, Wilkes-Barre, Pa., is seen.

Stereophonic Sound

With pictures being expanded, the use of stereophonic, or directional sound will be available and perhaps desirable. Having a single sound source in connection with today's standard screen is perfectly satisfactory. However, on the newly developed wide screens, tremendous realism can be given to pictures by having the sound appear to come from its source on the screen. In other words, if the action or the person speaking is on the left of the screen, the sound comes from an amplifier on the left side. If the action is center or right, the sound comes comes from center or right.

Stereophonic sound as such is not new. It was first demonstrated by the Bell Telephone Laboratories in the early 1930's, using a method developed by Dr. Harvey Fletcher. A few years later it again was demonstrated in Hollywood to the film industry, but nothing was done about it at that time because of World War II, and the lack of technical personnel and equipment.

Now, virtually overnight, things have changed. With the industry turning to 3-D and wide screen pictures, stereophonic sound has become an almost necessary adjunct.

In its simplest terms sterephonic sound means the recording of all sound in a picture on three or more separate sound tracks, each track being connected to a different horn strategically placed behind the screen.

Actual stereophonic sound recording at the time a picture is being filmed is a considerably more complicated process than that which has been in use. Past practice has been to have a single microphone connected to a single track magnetic recorder. Now it will be necessary to have three or more microphones, placed in different parts of the set, attached to a three-track magnetic recorder. The mixer, in addition to adjusting sound levels, also will have to determine which of the "mikes" should pick up the sound.

From a standpoint of showing pictures having stereophonic sound, it will be necessary to equip projection machines with three-track or more magnetic reproducing machines that can be interlocked into the projection machines so that the sound will be synchronized. Theatres will also have to be re-wired for three or more horns, rather than one behind their screens.

PHOTORAMA

Up to this point we have been discussing and analyzing the attempts of two of the major studios to evolve some method of bringing the advantages of wide screen presentation to ordinary 2-D motion pictures.

While it is true that most, if not all of the large and important branches of the industry are giving a great deal of time and money in an effort to solve this problem, it is also true that the small individuals, the cameramen, the exhibitors, the projectionists, and all the others who make their living from motion pictures, have also been at work.

One of these men, Robert Hanover, has developed a wide screen process, called Photorama, which appears worthy of some attention.

Until recently, pictures were taken through a single camera and were projected on a flat screen by a single lens having a focal length corresponding to the distance of the screen from the lens. In a picture so taken and projected, all the characters appear to be in the same plane. In other words the picture will have not depth or perspective.

Hanover, a veteran Philadelphia projectionist and part-time inventor, set out to create a system that would produce an effect of greater depth with a picture taken by a single, conventional camera, and without the necessity of providing the audience with viewers.

Bulging Curve

After a great deal of experimentation, Hanover decided that he could create a wide screen that gave a feeling of depth to ordinary film by curving the entire screen about its horizontal axis, and then curving the center portion of the

screen back about its vertical axis. As a result of this procedure, the central portion of the screen is bulged toward the projecting lens. Therefore, when a picture is projected on this screen, the center portion of the screen is surrounded by areas which incline away from the lens, and the end portions tend to curve toward the lens. Hanover adjusts his lens so that the various curved portions merge gently into each other so that the transition from one portion to the other is gradual.

Lens

In the normal photographing of a scene for projection on a flat screen, care is always taken to keep all parts of the scene in as shallow a field as is possible. The purpose of this, naturally, is to keep all the elements of the scene in proper focus, and when this scene is projected on a flat screen, a lens of the proper focal length is used. Since the patented Photorama system uses a screen which has both a curve and a bulge, it is necessary to use a lens so ground that it will have a progressively increasing focal length measured from the center to the periphery of the lens.

REAR VIEW of the Photorama Paramount installation reveals the 18-inch bulge put in the screen.

Theory

It is Hanover's contention that when the screen is curved according to his plans, the central bulging portion, and the curving end portions will be nearer to the projector than the portions which curve away from the central and end portions. The difference in the distances of the various portions of the screen, creates an illusion of perspective in that an object at either of the ends or the center will appear nearer to the eye.

In other words, by merely projecting various parts of the image on various parts of the screen which are not in the same plane, the parts of the picture will themselves appear to be in different planes, and since it is claimed that the transition from one plane to another is very gradual, an impression of continuity will prevail.

In most cases, the variation in the focus of the different parts of the picture projected on this curving bulging screen, should not be detectably out of focus. If, however, there should be a lack of focus, this can be remedied by using a lens portions of which have varying focal lengths, according to the distances between the parts of the screen and the corresponding portions of the lens. Hanover says that this can be done with little difficulty.

Practice

After having worked out his theory, and believing it sound, Hanover then went about providing a means of showing Photorama both to the public and the industry. He rented the Byrd, a neighborhood theatre in Philadelphia, and proceeded to install a screen that measured 50 feet wide by 26 feet in height, and to equip the projector with his corrected lens. Hanover then opened to the public, showing regular flat 2-D offerings on his new wide screen.

As a result of his opening at the Byrd, a number of exhibitors expressed interest in Photorama. At the present time the largest Photorama screen installed is one that measures 50 by 30 feet, and which is in the Paramount in Wilkes-Barre, Pa. Directing the installation personally, Hanover had the entire screen, including erection of the frame, hanging and shaping of the screen material, etc., completed in less than 12 hours, working with a crew of four. The theatre closed at nine in the evening and was ready to open the next morning.

Since any screen material can be used for Photorama, the screen may be adapted to the showing of stereoscopic films simply by using metallized material.

The Future

As could be ascertained from the previous description, the heart of the Photorama process is the curved screen with a bulge in the center. It seems logical that by bringing the center of the screen, and therefore the portion of the picture upon which most of the action appears, closer to the projector and the audience, a certain sense of depth should be created. This, in addition to the large size of the screen, combines to make an ordinary film much more impressive, although it does not create the effect obtained by stereoscopic films.

At the time this report was prepared, Photorama had only been installed in a very few theatres. The early results seem to indicate that the system does work, and gives satisfactory results. A number of exhibitors have expressed interest in Photorama, and a few have given orders to have it put into their theatres. It should be interesting to see what the future holds for this system which may have found a very logical and lucrative use for a bulge in the middle.

CONCLUSION

It is still too early to say with any conviction just when and where the current technical revolution in the motion picture industry will end. The final word and decision will naturally have to come from the people who frequent the theatres. After they have had a chance to see the latest in 3-D and wide screens, they will make up their minds as to what they feel gives them the most for their money. The wide screen methods discussed here, however, will enable the exhibitor to take advantage of the newness and novelty of the techniques, and since they can be adapted to show ordinary films in a different dress, exhibitors should be fairly sure of getting enough product during this changeover period.

Is CinemaScope The Answer

Closeup Look at the New Curved Wide Screen Process With an Explanation of the Anamorphic Device by Its Inventor

In the midst of the early confusion created by three-dimensional and panoramic screen developments, 20th Century-Fox made a dramatic announcement that startled the entire industry. The news was that this giant of the film industry was placing all its resources and production plans behind a wide screen process known as CinemaScope.

Following president Spyros P. Skouras' and production chief Darryl F. Zanuck's decision to go all out for the life-like curved screen process with stereophonic sound, the studio also announced that everything would be done to make CinemaScope pictures available to theatres in the Fall of 1953, and started shooting its $4,000,000 production "The Robe," in Technicolor using the new process.

A series of demonstrations held in key cities throughout the country convinced many skeptics of the practicality and impact of CinemaScope. Presently thousands of theatres are in the process of equipping to show this type of film.

Anamorphic Device

CinemaScope is a simple, fairly inexpensive color film device which simulates third-dimension to the extent that objects and actors seem to be part of the audience, while its stereophonic sound, which is an integral part of the system, imparts additional life-like quality as it moves across the screen with the action. CinemaScope requires only one camera for filming, and one machine for projection on the screen.

Of great importance to the viewer, there is no distortion of images from any seat in a theatre—front, middle, side or rear—making one seat in a theatre as good as another.

In order to show CinemaScope no changes are required to be made on the projectors, or in projection procedures, other than installing the special anamorphic lens, which is the heart of the entire system.

Invented by Frenchman Henri Chretien, honorary professor at the Sorbonne and the Paris Optical Institute, the anamorphic lens restores to its proper proportions an image previously distorted, thus making possible the compression onto 35mm film of wide angle scenes. When the film is projected through a companion lens, the distorted image assumes its former shape, as a trick mirror reflection in a carnival fun house would straighten itself out if placed before a mirror with compensating distortions.

In effect, the lens makes a 35 millimeter camera and a 35 millimeter projector do the work of machines three times as big. Projected onto the wide, curved screen, it creates an illusion of three-dimension, although it is by no means a true stereoscopic picture.

Equipment

The only extra equipment needed in CinemaScope filming is the special lens attached to a regulation camera, while one or two extra microphones pick up the moving sound. In projection a compensating lens is attached to an orthodox projector, converting images back to normal.

The stereophonic sound system can use a multiplicity of sound tracks wired to speakers placed behind the screen and in the theatre to correspond to the sound emanating from the person or location on or off screen. Although the price is starting to drop, at this time, the stereophonic sound equipment represents the major expense.

A screen especially developed by 20th Century-Fox for CinemaScope, and known as the Miracle Mirror, is said to be the best one on which to present

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BRIEF: *The CinemaScope wide screen system . . . with stereophonic sound . . . has created a great deal of interest in the industry . . . This system . . . which was invented by French Professor Henri Chretien . . . is based on an anamorphic lens which compresses a large picture on the ordinary 35mm. film . . . and restores it to its original shape when shown through a compensating lens placed on the projector.*

Many enthusiastic exhibitors . . . who have seen demonstrations . . . believe that CinemaScope will set the standard for the future . . . This article discusses the system's operation . . . equipment . . . and its promises and problems . . . There is also a technical explanation of the lens prepared by the inventor . . . which should make fascinating reading for those who wish to find out exactly what makes CinemaScope work.

A SCENE FROM "The Robe," indicating the size of the screen that is to be used for the showing of pictures using the new CinemaScope process.

CINEMASCOPE INVENTOR Henri Chretien explains the process to Spyros Skouras, 20th-Fox president.

CinemaScope. Said to contain millions of tiny "lenses" reflecting greater light, this is an all-purpose screen which may also be used for showing 3-D, standard 2-D, or any of the other wide angle lens projection methods. The Miracle Mirror screen may be had in any size that will maintain the CinemaScope aspect ratio of 2:55 to 1. The screen curves to a depth of five feet—enough to afford a feeling of engulfment without reflecting annoying light from one curved end of the screen to the other.

Horizons are level, while the increased ratio of length to height of the screen permits scenery to be viewed more as the eye is adapted to see it—from side to side, not up and down. In this connection, it is recalled, motion pictures had to sacrifice some of their screen's vital length when sound came, because one side of the picture frame was used to record the sound track.

Due to the immensity of the screen, few entire scenes can be taken in at a glance, enabling the spectator to view them as in life, or as one would watch a play when actors are working from opposite ends of the stage.

TECHNICAL AND BACKGROUND DATA

The following material which gives the background and details of the anamorphic lens, is from an address by the inventor Henri Chretien.

GENERALITIES

General Considerations

The normal field of natural vision is much more extended in width than in height; this follows because the visual field of the two eyes are co-extensive one with the other.

This is fortunately compatible with the most common aspect ratio of objects which we see; the enlarged scope of landscapes in a vertical direction is more rare, and the head movements in the vertical direction are less spontaneous than the horizontal movements.

It is undoubtedly due to this phenomenon that there is an exaggeration of the apparent height of elevated monuments and which has led the builders of cathedrals to locate them on elevated places where precisely this lack of space to contemplate them still further increases the impression of elevation toward the sky. I think that it is an error of these modern times to free them from obstructions in order to permit distant views.

Ever since the beginning of motion pictures the aspect ratio of the screen has been a compromise between these two directions. For ordinary photography where one can, by convenient arrangement of the apparatus on its support, take pictures whether it be in height or in width, the manufacturers have been constrained to adopt as format for the plates a ratio which is unchanged when one cuts the plate in half.

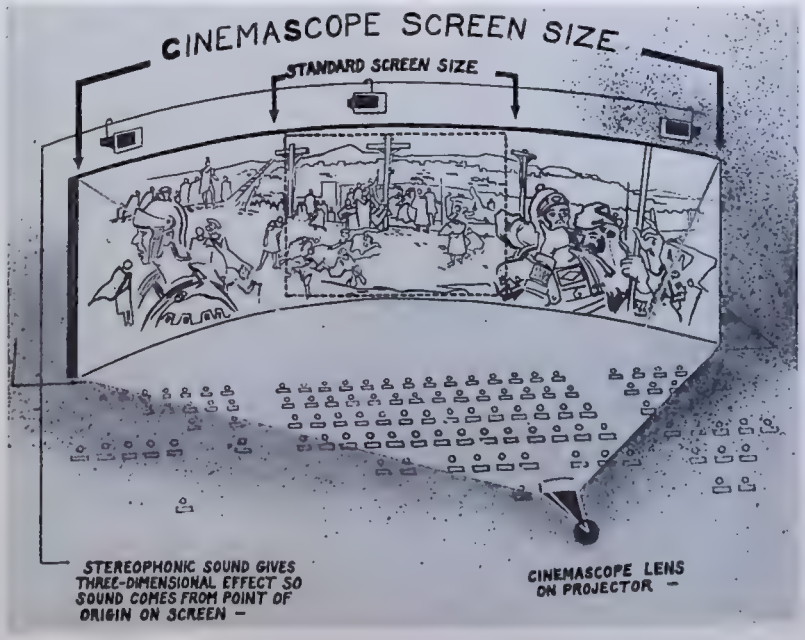
Outside of these sizes photographers use longish formats which are taken from the preceding formats by means of cropping.

Panoramic Photography

Besides the aspect ratio framing the pictures there is still posed the question of field of view.

Many procedures have been used to extend without limitation the photographic field. Col. Moessard has imagined apparatus having sphero-toric objectives which image on a single horizontally arranged plate all the scope of the horizon, which cannot be done without yielding a considerable distortion. Other authors have conceived of the formation of an image on a film rolled in cylindrical form concentrically with the photographic objective, this latter being given a rotational movement around the exit nodal point.

The Eastman Kodak Company has put at the disposal of amateurs apparatus



ABOVE: A SCENE as it is compressed on regular 35mm film. On the right is the same scene after it has been restored with an anamorphic lens.

which realizes this process. As to field of vision, the value of 150 degrees is attained. On the same optical principle apparatus has been constructed where the field of vision can attain 360 degrees of the scope of the horizon. In these cameras the film unrolls and rolls back in a narrow plane in proportion to the rotation of the objective.

Somewhere else it has been tried to record panoramas with ordinary cameras with flat plates by displacing the camera in a discontinuous manner and by changing the plate with each displacement.

This process has the inconvenience of presenting a polygonal panoramic field. The scale of the images changes periodically between each set over, at the center of the plate and the edge. Nevertheless, if the consecutive fields are well joined, one obtains panoramas of the most beautiful effect.

One can see with some effort, that if it is a question of projection, the joining of the successive panorama fragments offers some difficulties. Firstly it is necessary that the light intensity be the same, and stays the same, during the course of projecting, which is hard enough to obtain from light from an electric arc. Furthermore, it is necessary to watch constantly over the accurate joining of the images which is liable to be destroyed by the effects of temperature in the projectors. One may minimize these two defects, or at least one may take the opportunity to modify the edges of the fields for the purpose of correction, without discomfort to the spectators, by letting them encroach one upon the other, the parts common to the successive fields being toned down toward their border in such a way that the total light across the two superimposed marginal regions stays constant.

Cinematography

Considered analysis of the problems of these times, toward progress in the motion picture industry, does not seem to present an effective new solution to the problem of panoramic representation.

The first solution which appeared consisted of making a panorama out of the pictures, which means, turning the camera with a uniform motion. Within the fixed limits of projection we then see pass by successive areas of the field, which does not occur without causing a certain visual discomfort. This device can only be used very rarely and with much caution.

Since the beginning of motion pictures, a frame of 3 by 4 was adopted although it suits little the majority of subjects, so much more so as the operator does not have the possibility of reversing the camera by 90 degrees. The advent of the sound motion picture has still further aggravated this inferiority of photography in motion pictures: The recording of sound on the film had only a detrimental effect on the dimensions of the image which has become almost square, and yet the sound track has been satisfied with taking hardly 2.5mm of the area occupied by the image of silent motion pictures.

To overcome this inconvenience one is resigned today, by masking the projection aperture, to sacrifice a part of the film, and the images which measured originally 18 by 24mm, now measure no more than 15.62 by 20.83mm.

A great French cinematographer, who became a leader along this route: Abel Gance, has already, in his picture "Napoleon" tripled the width of the screen dimension. He was not impelled, at the time when his film appeared, by the necessities of sound picture technique, but he was guided solely by artistic considerations. By means of three cameras and three projectors, he grouped on the tripled screen thrilling panoramic arrangements or triptychs with a most happy effect. The impression on the public was considerable: unfortunately the technical complications of the process prevented its spread.

The Wide Film

The Americans recognized the interest shown in the enlargement of the screen, particularly when they were pushed by the imperious exigencies of the talking film and by the necessity of representing the theatre stage on the screen. They have attacked the problem head on and have attempted a profound transformation of their industry, as a result of which they count on maintainng their leadership.

The necessity for enlarging the screen has also appeared since the construction of those immense theatres of which the large American cities offer particularly striking examples. Optical apparatus has been created which when placed in front of the projector produced screens of enormous dimensions (Magnascope).

However, the very little image on film does not lend itself to indefinite enlargement. It was necessary to find something else, and then it was necessary to go away from the square format of the sound motion picture and to give sufficient place to the sound track. Besides one must not confuse *large image* with *large field*. The public does not make mistakes on this.

Then a rational solution has come to mind: change the format of the film.

But this most simple and radical solution is very costly. One must change not only the cameras, modify the studios, but also, above all, change the equipment in the developing and printing laboratories, the projection equipment, etc. . . . It involves a financial outlay so much more considerable because it must be done very rapidly. The total expenditure considered at this time for the laboratories and the fifty thousand theatres in the whole world was several hundreds of millions of dollars.

In addition it will be necessary to spend, continuously, twice as much money for film.

This revolution would gravely threaten the whole motion picture industry which

cannot accommodate itself to such an increase in costs.

The American companies nevertheless ignored these objections. One saw appear in America, the country of "standardization," a clear tendency to suppress the old universal 35mm film.

In May 1929, Paramount showed at the Rivoli in New York its "magnafilm" (56mm wide strip). In September 1929, Fox Film showed at the Gaiety Theatre its picture "Grandeur" (70mm wide strip). Other widths of 62mm and 65mm were proposed. Several great pictures on widened film were ready to make their appearance on the market.

The battle promised to be long and hard, it put into action immense capital, divergent interests, and comparable antagonistic powers.

It was in this epoch that the American economic crisis arrived, and the pursuit of this program was abandoned.

HYPERGONAR PROCESS

Solution By Anamorphosis

During the half century that it has existed, the motion picture has reached an impregnable position; it seems now practically impossible to make it leave this position by complicated modifications of the photographic equipment and above all projection equipment.

Having been keenly impressed by the considerable impression which the panoramic scenes produced on the public during the presentation of the film "Napoleon" by Abel Gance, we have believed that a transformation by means of anamorphosing the images, which we had studied previously in order to resolve certain technical military problems, could yield a more practical and immediate solution to the problem.

What does a photographer do when he wishes to include a larger field of view in his plate? He chooses a shorter focal length objective, but then he encumbers nis field in the dimension of height with a larger expanse of sky or of foreground.

The ideal solution would be to have an objective of which the focal length would be, for example, half the focal length in the horizontal direction as in the vertical direction, or vice versa. This solution would appear to be, a priori, a geometric impossibility. Let us examine, however, all the implications. The images which would be produced by such an objective would be an anamorphosed reproduction of the object with two different dimensional scales, one for the height, one for width.

Here let us recall the mirrors which we see in the amusement parks where our own reflection is foreshortened or lengthened according to the direction of the mirror curvature.

The procedure proposed here is of the same kind. We can see immediately the advantages of recording on film under conditions of their restoration on the screen such images extended in width or even in height.

But is it possible to build efficiently optical equipment corresponding to this program?

In deforming mirrors the useful opening of the viewing instrument, which is the pupil of the eye, is only a few millimeters, which makes the image quality that these mirrors give seem of sufficiently good quality. But if one wanted to photograph them with lenses of large opening such as are required for motion picture photography, we would see that they are subject to all sorts of intolerable defects, particularly astigmatism. It is thus necessary to study special optical systems in order to achieve the precision required by images capable of enormous enlargement on the motion picture screens.

Description of the Hypergonar

The Hypergonars which we have built are of two types:

"Hypergonar" for picture taking.

"Hypergonar" for projection.

They differ only in their dimensions and their mountings.

From the optical point of view, they consist of two separately achromatized systems: a converging system consisting of two lenses, cemented together, and a diverging system consisting of three lenses, cemented together.

In the case of taking pictures, focusing is accomplished in accordance with the distance of the subject, by means of a spiral shaped shaft and the help of a distance calibration. This does not alter in the least bit focusing of the camera: one may thus go immediately from taking ordinary pictures to taking panoramic pictures, and vice versa.

In the case of projection, the Hypergonar is adjusted once and for all in accordance with the distance of the screen, by means of a helical rack and pinion. The best fashion in which to proceed with this adjustment seems to us to be the following. One projects on the screen a checker-board pattern formed by white arrows on a black background, vertical and horizontal. One focuses with the projector objective. One inserts the Hypergonar and turns it in such a way as to restore the lines of the checker-board to the vertical and to the horizontal, respectively. The horizontal lines have retained their fineness. By turning the pinion of the focusing device of the Hypergonar one brings the verticals into maximum clearness. The apparatus is adjusted. It has to be stated that the interposition of the Hypergonar does not modify the definition on the screen.

The exposure time is thus not changed in the camera.

In projection the screen brightness is reduced proportionately to the enlargement of the anamorphic attachment, since one lights a larger surface, and not in proportion to its square (as it would be the case if the image were enlarged in all directions).

The loss of light occasioned by the introduction of the anamorphic attachments is insignificant: it is the consecutive interposition of only two supplementary lenses, as each of the two systems of which Hypergonar consists is formed by cemented lenses. In addition the exterior surfaces of each system are treated with anti-reflection coating.

The effect is the same way in regard to the grain of the film, and that advantage is very appreciable.

PROOF THAT CinemaScope can handle closeups is offered by this picture of Marilyn Monroe in 20th-Fox's film "How to Marry a Millionaire."

PANORAMIC MOTION PICTURES

The Use of the Hypergonar

It does not enter into the framework of this report to treat of what one might call the new technique of shooting scenes, in accordance with the possibilities that the anamorphic attachment brings to the motion picture art. Just imagine the chariot race from Ben Hur developing on a panoramic screen!

It is certain that one has seen enough of this dead 3 by 4 screen; at the present time the public needs something else.

As a result of our personal observations it seems to us nevertheless that one needs to introduce into a great picture only a well-measured proportion of panoramic pictures; the misuse of panorama kills the panoramic effect. While conversely a presentation of images on a screen of normal proportions which opens from time to time, intentionally, on a scene that needs space, which really needs a wider field, produces a very strong impression on the audience.

However, one will object, there exists at the present time only a very small number of houses that can take a panoramic screen. There cannot be any question of shooting a whole film costing millions that can finally run only in this small number of privileged theatres.

One is thus taken into a vicious circle. Will it ever be possible to leave it? If one has the audacity to brave it, will the transitory period not degenerate into catastrophe? The history of wide film has not yet been erased in everybody's memory, and the financial difficulties with which the motion picture industry is struggling at present permits little gaiety of heart in such an eventuality!

If a problem admits of a solution, it admits, by itself an infinite number of others, said Henri Poincaré.

In order to open the way, let me propose one. It is based on the ease of adaptation of the anamorphic attachment.

Let us imagine that one shoots a film by leaving, continuously, through all the scenes, the Hypergonar mounted on the camera. The viewfinder which the operator is using has two vertical cross hairs which delimit for him the field of the ordinary screen inside of which he assembles the elements of action which he wants to present in the ordinary manner.

If a scene comes up which merits extension of the field, to any degree, everything is ready. One need only continue shooting. If the entire field of which the Hypergonar is capable turns out to be still insufficient, the cameraman is left with the resource of panning. It should be pointed out here that a great panorama unwinding in a great framework produces a grand effect, entirely different from that of a "pan shot" in too small a frame, which is disagreeable and tiring.

How can we then utilize this negative footage anamorphised from one end to the other?

For those theatres which already possess a panoramic screen, we simply print positive copies in a corresponding number.

PROMISE AND PROBLEMS

The development of the CinemaScope process holds much promise for the future. According to most reports, some 2,000 to 3,000 theatres on a world-wide basis, will be equipped to show films with the new wide screen system before the end of 1953.

CinemaScope has been shown on a screen 80 feet wide in the New York Roxy, and on one 32 by 17 feet, and the results have been more than favorable in each case, thus demonstrating that even a small screen, if it maintains the proper aspect ratio, can show CinemaScope.

The new medium calls for improvements both in acting and in physical operation. Because of the immensity of the screen, continuous action between players can be seen large enough to eliminate closeups in many cases, as well as frequent cutting of scenes. This gives CinemaScope movies some of the lifelike fluidity of the stage, and will make acting more competitive as the audience's attention is called first to one player then another by the sound of their voices seemingly coming from their own lips.

However, the system also creates some problems. Because three microphones are used instead of one, the cameraman has three times as many microphone shadows to eliminate in his lighting, which has to be brighter for the larger sets used. Recording sound on the film poses many difficulties, but 20th Century-Fox recently announced the development of four magnetic sound tracks on a single piece of 35mm film.

The medium enhances the importance of background detail, both as regards sets and actors. Their increased size on the big screen permits of closer scrutiny of them if the viewer chooses to look at them. As a result more actors will be used in scenes in order to fill the screen.

CONCLUSIONS

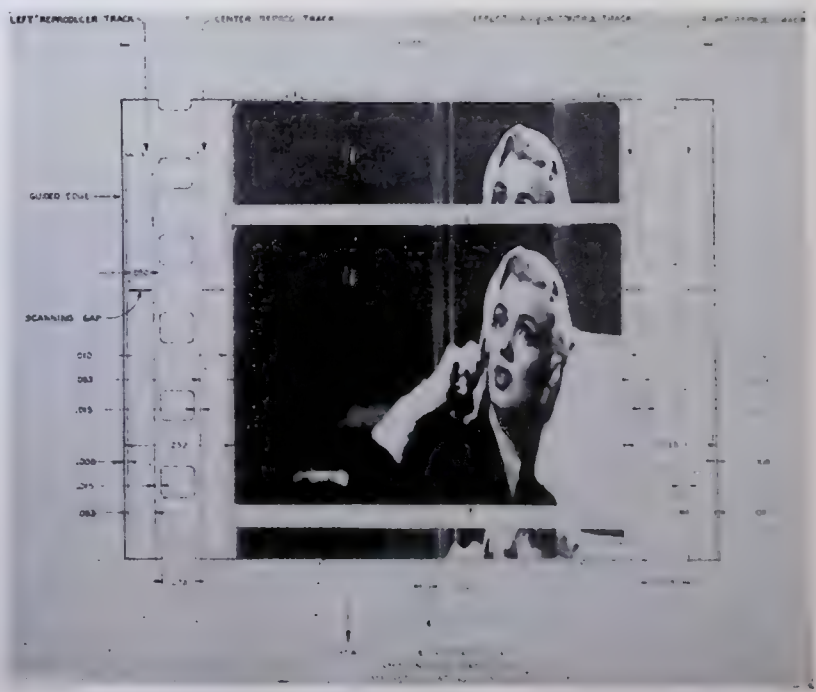
Of course, as with all things that are offered to the public, the average moviegoer will be the one who will finally decide which of the new system entertains him in the way he enjoys the most. However, the enthusiasm of the press, and more important, thousands of exhibitors, indicate that CinemaScope might be the final answer.

The following is a statement by Darryl F. Zanuck, vice-president in charge of production of 20th Century-Fox which seems to sum up that company's viewpoint:

"By now, we of 20th Century Fox have seen our original enthusiasm for CinemaScope not only endorsed, but exalted by leading producers, distributors, exhibitors and qualified members of the press from all over the world. We have yet to receive, of course, the most important of all acceptances — that of the public itself — but we are not worried about the verdict.

"As I see it, the excitement of this amazing new medium may properly be divided into two phases — exhibition and production. The exhibitor may now show his patrons things the eye has never before witnessed in a theatre. Spectacle has always been one of the greatest, if not the greatest, magnets for audiences. Now we have a potential unequalled in all the long centuries of theatrical history."

COMBINING FOUR MAGNETIC sound tracks on a single 35mm. film, the 20th-Fox system, as seen below, does away with need for separate sound reproducer for projection of stereophonic sound.



The New Techniques: An Explanation

A Leading Motion Picture Engineer Presents His Views on the Various Wide Screen and 3-D Systems Available

By HEBRERT BARNETT*
President of the Society of Motion Picture and Television Engineers

BRIEF: ***Wide Screen or 3-D? This is probably one of the most puzzling decisions theatre operators have had to make . . . It is even more difficult than the decision to shift to sound . . . Then it was merely a question of deciding yes or no . . . Today the exhibitor must first decide if he needs the new techniques developed . . . and then he must again decide which of these new techniques will have the longest life . . . and which will best suit his individual needs and pocketbook.***

This article offers an impartial look at most of the systems now available . . . and an analysis by one of the best known motion picture engineers in the industry . . . Having no axe to grind . . . this article should be a source of much valuable information for its readers.

If we had the power to call upon Hamlet to summarize today's thinking, Shakespeare's smartest character would undoubtedly exclaim:

"To be, or *not* to be on the gravy train: *that* is the question."

A more puzzling problem is: Which *is* the gravy train?

I wish I could tell you which of the new projection systems would put you hip-deep in money, I can't. It's a secret guarded by Time and the Public.

My mission is to brief you on these new developments in the presentation of motion pictures; to give you enough of the trends and backgrounds to enable you to evaluate the various processes in the light of your own personal interests. Your judgment may rightly differ from that of your neighbor. Each of you must consider factors peculiar to your own theatre and locality and potential audience.

INTRODUCTION

But whatever you may decide about wide-screen and stereoscopic pictures — right, wrong, or sit tight. — the violent surge of life in the film industry can be of enormous advantage to you as an exhibitor. Motion picture news other than divorce has been making the front pages of the world's press. People, young and old, are once again movie-conscious.

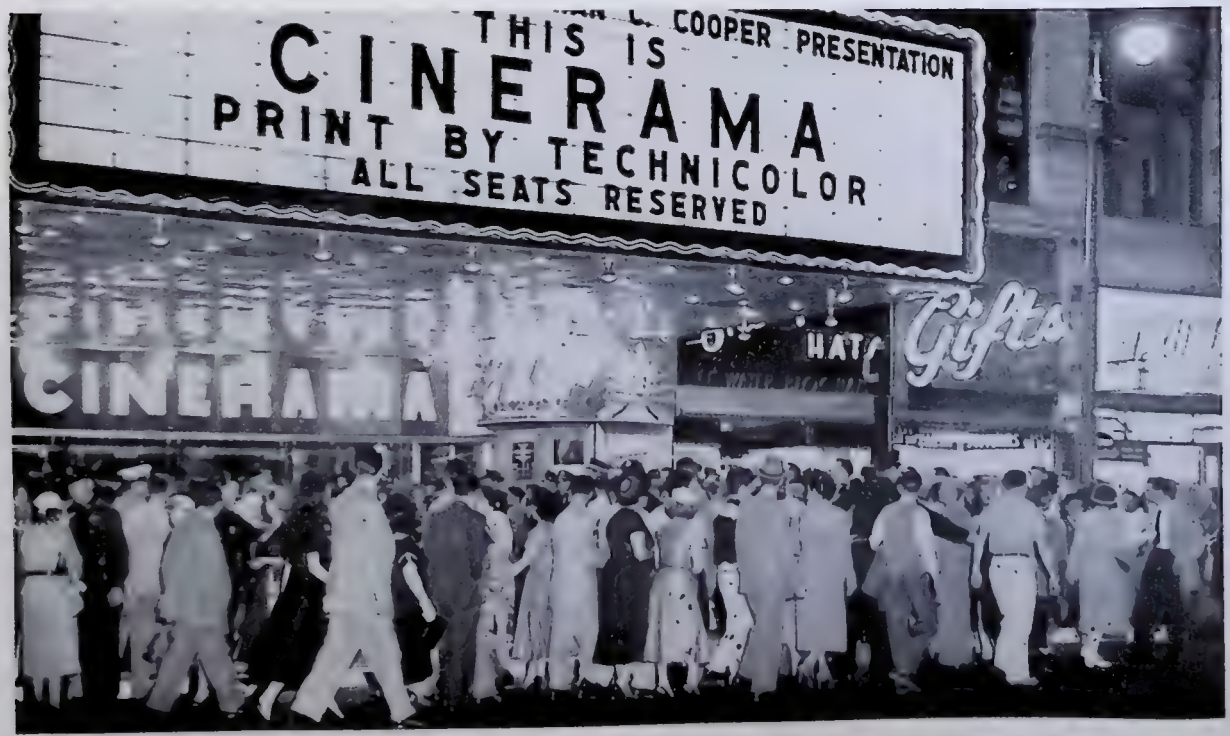
The public acclaim of Cinerama and "Bwana Devil" was unforeseen in the "front offices" of Hollywood. For days and weeks on end top-level management performed the difficult feat of keeping one eye on their competitors, the other on the stock-ticker, and both ears attuned to boxoffices and stockholders. Then began the hasty plunges into wide-screens and stereo.

No criticism is implied in the sequence of events that led to action. Numberless factors had to be weighed. For ours is one of the most complex business structures in existence. Only one phase of it is simple: *cash on the barrel-head* — 924-million dollars of the elusive stuff last year alone!

Some of the forthright commitments to one or another of the new processes required daring and extraordinary courage. On the groaning shelves of the major studios is 335-million dollars' worth of inventory — all of it in conventional 2-D films! The income value of this vast stock of pictures can reach 800-million dollars!

Keep in mind this big stake of the majors in so-called "flat" movies. At the same time, remember that the current and planned investment in three-dimensional films is not a wild gamble. 3-D producers have a nerve-soothing hedge:

*From an address at the annual convention of the Independent Theatre Owners of Ohio.



CROWDS JAMMED BROADWAY as "This is Cinerama" re-opened in the Warner in New York.

each print of a two-film stereo picture can be exhibited as a regular two-dimensional film, provided this possibility is given consideration when the picture is made and it is of a quality that will attract boxoffice — 2-D or 3-D.

The serious drop in movie attendance that has plagued the industry cannot be blamed on the really fine pictures shown in good theatres. It was the average, run-of-the-mill films and the obsolete houses that couldn't withstand the stiffening competition of home television and the astronomical number of free radio and TV shows. For one example, home television has magnified the effect on the boxoffice of bad weather. The New York Radio City Music Hall suffered a drop of thousands of dollars in admissions on a recent rainy day. This was unheard of before TV.

Despite the villain's role played by "average" films, they have been the bread-and-butter of the entire industry. No wonder anything that can boost the sales appeal of ordinary films is welcomed above and beyond its intrinsic worth! This explains in part the rush to the gold fields of stereo and big screens.

BASIC APPROACHES

In spite of the almost daily announcement of some new process, when the facts are all in, these boil down to two basic approaches; namely, wide screen and true Stereo or 3-D. Cinerama, CinemaScope, Paramount, Todd-AO, the Universal Pictures system, etc., all are designed to present wide screen pictures, differing only in the claimed methods and quality results. There have been equally as many announced Stereo systems which employ polarized viewing methods, all of which are identical from the projection requirements standpoint.

Stereoscopic motion pictures, wide- and curved screens, stereophonic sound — none of these developments is actually *new*. All have been tried before. Some failed because of technical imperfections. Others foundered on the rocky judgment of self-appointed experts on what the public would buy.

The early literature of the Society of Motion Picture Engineers teems with reports and papers on all phases of wide screens, stereo cinematography and projection, and stereophonic sound.

Big screens go back to the infancy of the moving picture. A 98-foot screen was built and used in 1899. In the '30's, an outdoor panoramic screen was constructed on the curved wall of a building. This beaded screen was 33-feet high and 196-feet wide.

Furthermore, the projection system for this mammoth screen combined the basic features of Cinerama and CinemaScope. The screen image was projected by two interlocked machines. Each projector was equipped with a special optical device called a "Hypergonar." We know it in America as the CinemaScope lens.

By this marriage of two processes, the film images were magnified 1200 times in width.

The two-film stereoscopic motion picture, as we see it today, in full color and employing polarizers and viewers, was demonstrated to the Society of Motion Picture Engineers in Washington in 1935.

THE PANORAMASCOPE SCREEN in the Randolph, Philadelphia, is a one-piece all-purpose screen and is one of the many types which have appeared since the appearance of the various wide screen systems.

You may well ask: If all these projection techniques have come and gone years ago, what chance have they on this latest return to favor?

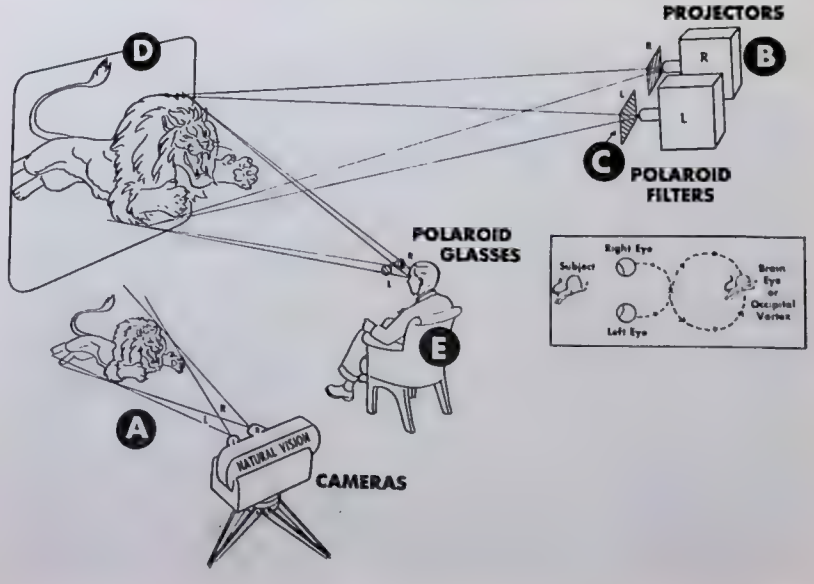
Three important factors will contribute to their suuccess:

First and foremost is the *time* factor. The public, with money to spend, has demonstrated at the boxoffice that it is now in the mood for new methods of presentation.

Next, devices and techniques impractical before the war are now commercially feasible: thanks to an enormous number of small yet related technical advances in motion picture research and development in the past decade.

Last but not least, the wonder of the new is gradually fading. No longer is the public spellbound by small-screen television. People are looking around for something visually new and big and exciting.

SCHEMATIC DRAWING (BELOW) SHOWS HOW 3-D FUNCTIONS: The image (A) is photographed by two lenses which converge on it as do human eyes thereby producing two-separate two-dimensional pictures. In the theatre, two normal interlocked projectors (B) project the two pictures through polarizing light filters attached to the portholes of the projection booth (C) onto a reflective screen (D) in superimposition just as human eyes project onto the "brain eye" (see diagram). The viewer (E) wears polarizing glasses which serve to accept only the correct image intended for each eye.



ABOVE IS THE STRONG 3-D RECTIFIER. The increased light demands the additional power.

Noticeable improvement in theatre attendance has been reported in the six major cities where the TV market has gone soft.

The time is opportune, and producers are giving a choice of very potent magnets with which to pull back 25-million lost customers. This goal is attainable. It is as certain as death and taxes, but immeasurably more pleasant.

Representing the SMPTE I must refrain from favoring any one of the systems to be discussed, or from expressing an opinion on their relative merits.

The task of evaluation is yours.

ILLUMINATED SURROUNDS

Showmen, engineers and many others in the last half century have tried in numerous ways to improve the stage settings for the presentation of motion pictures.

Many reasons were advanced for the suggested changes: heightened dramatic possibilities, better viewing, removing the limitations imposed by a picture frame, even the reduction of eye-strain and its consequences.

These experimenters made little progress against the inertia of a highly standardized industry. But while they were getting nowhere, steady progress was made in every other field: equipment, methods, film, sound and color.

So today in most of our theatres we are displaying million-dollar products in 50-year-old show-cases: a rectangular screen framed and surrounded by a black border and background.

Our conventional black-masked screen has long been condemned as primitive and fatiguing by eyesight specialists and illumination engineers. Their research discloses that areas of high central illumination need adequate peripheral or surround brightness for seeing comfort. It results in less eye-fatigue, better perception of detail, and quicker response to the screen image.

The audience begins to feel a new sensation of being closer to the action — something of the feeling of an actual eye witness to the events unfolding on the screen. Contributing to this illusion is the absence of the black picture-frame. Lacking this yardstick, the patron is less conscious of his distance from the screen, even in the rear seats.

Illuminated surrounds are thus a significant step toward the goal of audience participation and heightened dramatic effects and emotional appeal.

WIDE SCREENS

Other innovators, working independently here and abroad to improve the showing of motion pictures, have for a long time been of the opinion that the standardized screen proportion of 4 to 3 is a mill-stone around the neck of the creative people in our business. Only on a large screen, they are convinced, can the motion picture display the dramatic force of which it is capable. Proscenium limitations, however, prevent their use in the present shape in the majority of theatres.

Still other advocates of larger screens maintain that size alone is but part of the solution. They can give mighty convincing proof that the screen should conform to the shape of the normal field of human vision.

We observe the world around us, they say, by means of distinct central vision, and less distinct peripheral vision. The two eyes together take in a semi-circular field exceeding 180 degrees.

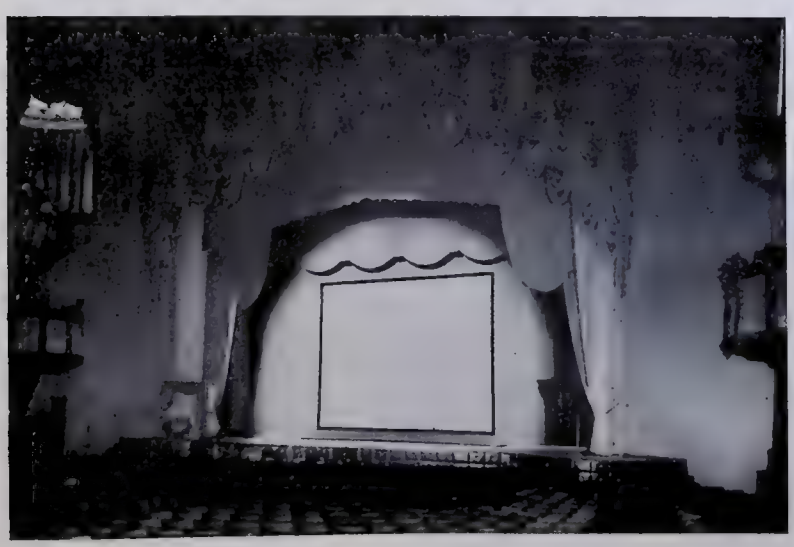
The more the screen can be expanded to the angular range of normal sight, the greater will be the illusion that the audience is within the scene of action. No longer will he be *viewing* a framed picture; he will instead be *in* the picture, sharing the mental and emotional excitement of the characters on the screen.

To enhance the sense of realism and participation, the disciples of the wide screen strive to create a third-dimensional *effect* without resorting to stereoscopy and polarizers and viewing spectacles. First they take full advantage of our faculty to perceive depth or distance by image size, shadow effects, perspective, color shades, parallax and a moving camera, all coupled with visual experience. Then they augment our depth perception capacity with stereophonic sound. Speakers are arranged behind the screen, on the side walls and in the rear of the house. Sound follows action across the screen and travels around the theatre. Only those who have experienced the sensation of being surrounded by sound and picture can appreciate its spell-binding effect on the spectator.

Whatever else may fall by the wayside, stereophonic sound has made good; it is here to stay. And all wide-screen systems use it.

None of the wide-screen techniques, however, is a true stereo or 3-D picture. They are described variously as providing three-dimensional effects, illusions of depth, and so forth. All are direct-vision processes, employing neither polarized light nor polarized viewing spectacles.

THIS WALKER HIGH INTENSITY SCREEN in the New York Roxy is good for both 2-D and 3-D.



Wide Screen Systems

Cinerama, introduced to the public in New York last fall, carries the concept of increased field of vision almost to the limits of normal sight. Three synchronized projectors throw a triple-sized picture image on a vast curved screen which provides a field of vision of 146 degrees in the horizontal and 55 degrees vertically.

Since Cinerama is non-standard from cameras to film-speed, it is a road-show, long-run presentation being adaptable in its present form to a very limited number of houses in the country.

It is of interest to you only as evidence that the public is enthusiastic about wide-screen projection.

CinemaScope, the Twentieth Century-Fox wide-screen system, is based on an optical development of Professor Henri Chretien, of the University and the Optical Institute of Paris.

Essentially the device consists of a cylindrical lens that acts as a sort of optical transformer. When mounted in front of the regular camera lenses, it "squeezes" a field two and one-half times normal width into the standard 35-mm frame. The vertical dimension remains unchanged.

A similar optical device is placed before the projector lens. This one spreads out the light beams horizontally, thus restoring objects in the scene to their original shape.

In short, the CinemaScope process, using regular film, cameras and projec-

AT RIGHT IS ROY CLAPP, inventor of Nord process which projects 2-D and 3-D with one camera.

tors, changes the standard screen ratio from 4 to 3 to almost 8 to 3.

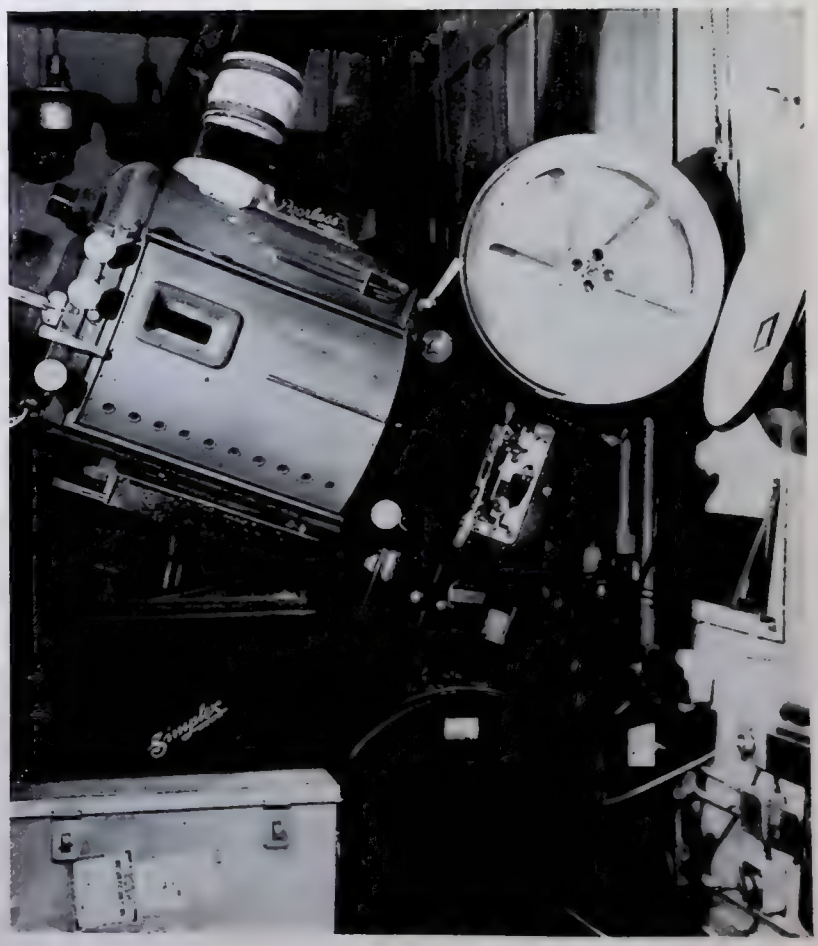
The new Fox projection technique has been demonstrated to exhibitors, producers and the press. One series of showings was made with a 64-foot screen, another with a smaller screen suitable to the smaller theatres.

The reaction of exhibitors who witnessed the CinemaScope showings was enthusiastic. The combination of wide-screen and stereo sound has, they reported, the powerful appeal needed to get the public again into the movie-habit.

Paramount unveiled its contender in the wide-screen race and announced their new screen had a width-to-height ratio of about 5-3. This slightly wider-than-conventional screen is, they contend, more adaptable to the average thousand-seat house.

A recent entry into the wide-screen field is called the TODD-AO process, a development of the American Optical Company. The method, according to its inventor, "employs new principles in wide-angle photography," and uses one film, said to be 65-mm wide.

NOTE THE 5,000 FOOT UPPER MAGAZINE with the free wheeling reel on this X-L Simplex.



American Optical will manufacture the equuipment which Todd-AO Corporation will distribute and lease. Another company, Magna Theatre Corporation, will distribute the pictures made by the process. A road-show policy has been announced for at least the first production.

MGM and Universal, as well as others, have been working on a projection method that will give their huge inventory of 2-D film some of the "new look" and appeal of the wide-screen techniques.

3-D SYSTEMS

Now let's turn to the true stereoscopic motion picture — the well-publicized "3-D" which has kindled the imagination of people all over the world.

People with normal eyes estimate distances and visualize the solidity of objects in two distinct ways. One is by "depth perception" — a faculty for appreciating the relative order of seen things by means of overlap, contours, shadows, perspective, reflections and changing viewpoint. When you close one eye, or when you look at a conventional 2-D picture, this is the way you judge the shape and the relative position of people and things within your field of vision.

The second way we estimate distances and solidity is by "stereopsis." Stereopsis is an independent faculty based on the fact that our two eyes look at objects from slightly different angles. As a result, the images projected upon the retinas of our two eyes are slightly different. But the visual mechanism in the brain combines the two dissimilar images into a single three-dimensional impression. This phenomenon is known as "binocular stereoscopic vision." It is the basis of 3-D motion pictures.

The toughest problem in 3-D motion pictures is how to get the right-eye

BURNER MECHANISM on the Strong 90,000—8 arc lamp designed for 3-D projection is shown here.

picture to the right eye of the audience; and the left-eye image to the left eye.

There are only two places where the selection of the correct right- and left-eye images can occur: at the screen and at the spectator's eyes.

The obstacles to practical direct-vision 3-D screens—that is, without polarizing spectacles—are unbelievably formidable. As one engineer expressed it: "Show me six workable perpetual motion machines and I'll show you one 3-D process that doesn't require glasses." He has a long time to make good on his promise.

The most satisfactory method yet devised is selection at the patron's eyes, using polarizers and viewers.

Unfortunately there are serious light losses. The polarizing filter at the booth-port blocks 50 per cent of the light trying to pass through it. Surface losses and absorption account for another 10 per cent. The actual light loss between the projectors and the eyes of the audience runs as high as 70 per cent. To make up for this loss, the light output from each of the two necessary projectors would have to be increased by a factor of 2.5.

All of the present stereo pictures are 2-film shows, which means that two projector lamps will be burning at the same time. Your lamp supply facilities must be able to carry this load for an hour of continuous running. If they can't, you will need another generator or rectifier.

3-D Conversion

To convert to 3-D, you will require:—

A mechanical or electrical interlock so your projectors will operate in perfect synchronization.

You *must* have a metallized-surface perforated projection sceen. Beaded and white matte screens destroy the stereo effect by depolarizing the light.

You will need larger reels and magazines. The stereo standards committee recommends 25-inch magazines to accommodate 24-inch reels. These permit a 10-thousand foot show with only one intermission.

You will also require two porthole frames for holding the two polarizing filters. A small fan, trained on each of the filters, will prevent overheating and buckling. Filters are cleaned with a static-master or similar brush. Two extra filters should be carried as spares.

And, of course, you will need an adequate supply of viewing spectacles.

Target test films are necessary to align the two projectors. Their horizontal and vertical centers must be superposed on the screen.

For Warner's "House of Wax," and some other 3-D films, you will need a stereophonic sound system.

In projection, as in cinematography, a very high order of precision is essential to realize and maintain the stereo effect.

Your two interlocked machines project the twin images from the two films so they are superposed on the screen. An out-of-sync error of one frame is enough to be noticeable and irritating. Framing of both images must be identical, as vertical differences set up eye-strain. The light output from each projector must be equal. Any falling-off of screen quality in one or both images weakens the stereo impression. Projection lens must be closely matched for distortion and focal length.

Unlike the presentation of conventional pictures, anything less than fine projection destroys what you are selling—a three-diemnsional motion picture. Don't go in for 3-D unless you can do a top-notch job of projection!

One thing about the present 3-D techniques disturbs many showmen and engineers. It is reversing the steady trend toward higher levels of screen brightness and doing away with the black-framed screen.

The stereo impression is best obtained by viewing the moving images through a "stereo window." This so-called window is smaller than the screen frame, and appears even smaller than it is, particularly when the scene is shot with too widely separated camera lenses.

Some observers believe that the current fate of 3-D will hinge on the public's reaction to the first three stereo films made by the major studios. These are Warner's "House of Wax," Columbia's "Fort Ti," and Paramount's "Sangaree."

COMMENT ON 3-D is typified in this cartoon by Bert Whitman, in the Stockton California Record.

THE PERILS OF POOR PAULINE —by Whitman

STANDARDIZATION

One of the loudest battle cries since the War is "Standardization."

Standardization means, however, three different things to as many different groups of people.

To *one* populous segment of the industry it means freezing new developments at a point where they will cost the *least* money. They see improved methods from the standpoint of *cost*—instead of *benefits*.

The *second* group wants and expects all producers to agree on a single

standard for *screen aspect ratio*, for *sound*, for *projection* and so on. They think the producers should return to the old policy of making identical products. If this happens, you and the production people aren't as smart as I have been giving you credit for these many years.

The *third* group wants interchangeability standards for basic equipment and techniques. For instance, they expect stereoscopic sound standards that will allow them to present *any* stereo sound film from *any* studio, at a reasonable cost in equipment and operation.

Beyond this standardization of essential equipment, they want producers to have every possible latitude in making pictures that will be irresistible magnets to straying customers.

Why don't the automobile manufacturers standardize production on one car? Why are they continuously improving their cars, year after year? To keep us constantly *hungry* for their products.

George Stevens, one of the industry's outstanding producers, expressed the opinion that studios should never sacrifice their competitive position or limit their freedom of dramatic expression by rigid standardization.

Paul Raibourn, Paramount Vice-President and motion picture and TV engineer, said that the industry has suffered from too much uniformity. He believes that showmen in the future must be equipped to use a variety of presentation methods to show films at their best in different techniques.

The SMPTE has been the champion of standards in the industry for 37 exciting years. Our work began in 1916 with extracting order out of chaos in equipment and methods through standard specifications and interchangeability. From these early efforts the 35mm film became the only standard product, along with time-pieces, common to all the nations on earth.

Purpose

The purpose of standards is to foster the orderly growth of the industry . . . to make it stronger by broadening our markets . . . and by reducing the chances of economic waste in manufacture, production and distribution.

It has never been the Society's policy to extend standards beyond the items which will help you and other segments of our business to function more efficiently and profitably.

Standards when carried to excess, can, like Government regulations, become straightjackets that curb developments and thereby jeopardize the future of your business and mine.

Standards for the production of stereoscopic pictures were proposed and agreed upon in a remarkably short time. Any theatre, equipped for 2-film stereo projection, can run *any* and *every* stereo motion picture on the market. Yet manufacturers of screens and filters and light sources, for instance, have been free to continue improving their products to the advantage of all of us.

Basic standards for stereophonic sound are well along, and there is a good chance that a four magnetic-track, single-film system will be adopted as possessing the attributes for standardization. Two of the tracks will be outside the sprocket holes; two inside. The process has flexibility and is compatible, at a reasonable cost to the exhibitor, with all existing sound-on-film systems. The use of standard projection equipment, plus a sound head and inexpensive modifications of sprocket teeth, will keep the cost within the capacity of the average theatre.

Standards on wide- and panoramic-screen are under continuous study. Late data are being collected on the dimensions, seat plans and screen ratios of every house in the United States. This information will undoubtedly be the key to any success in this field.

How far screen standardization can go, without limiting the technical and artistic developments essential to profitable operations,—that is a question which must be answered correctly. Or else.

The Future

Theatre owners have reasons for their king-sized headaches. And they aren't helped by conflicting statements and claims to miracles. Yet the whole situation can be brought into better focus if they realize they are not sitting in on a penny-ante game. This wide-screen, 3-D scramble is a gigantic struggle for power, but at the same time having a common interest in revival of the motion picture industry. Hundreds of millions of dollars are involved. So are the fate of companies and the future of individuals.

CONCLUSIONS

Motion picture engineers are working hard to ease your troubles in a constructive and reasonable manner by establishing standards as quickly as possible. Other engineers, of course, are happily taking advantage of this big opportunity to make major contributions to the techniques and equipment for the presentation of pictures.

Things may be in a turmoil for a year or so, but I am certain that when the dust settles the film industry will be stronger than ever. And I'm equally sure that our lost customers will in the meanwhile have returned to the comfort and haven of your theatres.

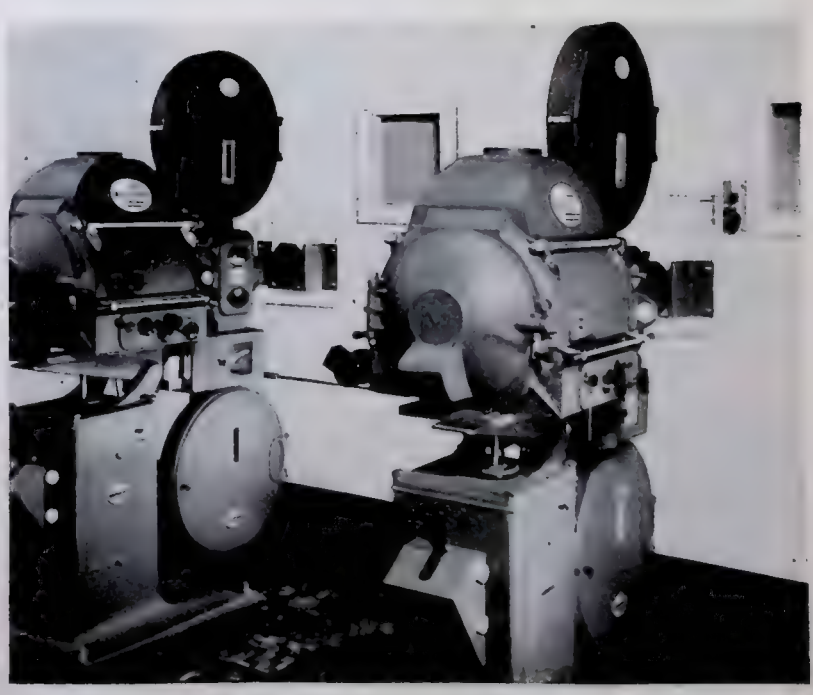
I have been pressed for my personal opinion on the near future. With a potential audience of 90- to 100-million people a week, I think theatre owners will find it pays to be able to present *any* good show that is produced, whether 2-D, 3-D, wide-screen or theatre television.

There are of course practical limitations to your application of wide screen system. No apparent advantages can accrue where theatre dimensions are such as to limit screen dimensions to only slight increases over present.

I have heard considerable criticism of the theatre supply dealer, indicating the exhibitor is being asked to buy everything on the shelf. Investigations which I have been able to make indicate, in all fairness, that the supply dealer is honestly attempting to be fair and conconservative in this respect. There has been almost unsurmountable confusion generated through the sudden impact of these developments. This has been no less a headache to the dealer than to you. He has been torn between a desire to meet your requirements and recognition of the lack of information and engineering conclusions in respect to these developments. It is always costly to commercialize developments before all the facts are in.

It is reasonably certain that some form — or forms — of new projection is here to stay. In the meantime, much value is being gained through the front page interest in motion pictures.

IDEAL BOOTH SET-UP for 3-D projection is illustrated here. The equipment is from Motiograph.



The Stereoscopic Art

A Thorough and Complete Study of the Development and History of Three-Dimensional Motion Pictures

BRIEF: *At the present time the entire motion picture industry is in an excited and exciting period . . . The chief cause is the rebirth of interest in stereoscopic motion picture techniques . . . Although 3-D is far from new . . . it appears that the time has finally come when this form of entertainment will be fully explored.*

In order for its readers to get the proper background knowledge of three-dimensional techniques . . . the editors of THEATRE CATALOG are reprinting what they consider to be the most complete and accurate article to appear on this subject . . . Although it was written before the present situation developed . . . the information it contains is as up-to-date as anything which has yet to appear.

By JOHN A. NORLING*

President, Loucks & Norling Studios, New York City

An accelerated interest in stereoscopic photography has been inspired in recent years by the appearance of compact, well-designed cameras and viewing devices marketed at moderate prices. These new products and their increasingly widespread use support the belief that any art such as stereoscopic representation depends for popularity, indeed for survival, on the equipment available to enable people to practice the art.

That an appreciation and understanding of stereoscopic vision has existed for a long time is evident from Euclid's definition:

To see in relief is to receive by means of each eye the simultaneous impression of two dissimilar images of the same object.

On this definition by Euclid (280 B.C.) the entire stereo art is based. And that stereoscopic representation has long been practiced is borne out by the stereoscopic drawings of Giovanni Battista della Porta around the year 1600. How della Porta's drawings and similar drawings of other artists of that era were viewed is not known. But is is well known that the popularity of stereoscopic pictures reached a peak about 50 years ago when the stereoscope was virtually a parlor fixture. Now, although the parlor stereoscope is instead a museum piece, the art of steroscopy appears to be flourishing again as it did half a century ago —with one principal difference: It is a participating art instead of simply a spectator art. More and more people are not only viewing three-dimensional pictures, but they are taking them with their own cameras. The popularity of stereoscopic photography looks as if it is here to stay. With a wider appreciation of its possibilities, and with an increasing number of camera enthusiasts trying their skills at stereoscopy, its possible eventual widespread acceptance as the ultimate form of photographic realism may one day come about.

SOME INDICATION OF THE amount of interest and confusion about stereoscopic films is evidenced in this cartoon by the famous artist Angelo. Although the approach is humorous, the need for accurate information is very vital.

EARLY VIEWING DEVICES

One of the first known viewing devices was the Wheatstone Stereoscope, which was described before the Royal Society in 1838 by Sir. Charles Wheatstone sixteen years after Niepce produced the first permanent photographic image. This instrument supported a pair of pictures on easels clamped to a bar, one at each end. Midway between the pictures were mirrors facing them. The observer saw the reflected images and was able to fuse them provided they were properly spaced and aligned. But its unwieldiness contributed to its lack of popularity.

The first practical stereoscope was invented by a Scotsman, Sir David Brewster, who introduced it in 1849. This was modified by Oliver Wendell Holmes some years later in America. In its early form, the Brewster stereoscope contained a pair of prisms which, in 1856, were replaced by segments of a convex lens. The Brewster and Holmes stereoscopes were used for viewing paper stereograms. Later, several Europeans brought out a large variety of viewers for transparencies, frequently in elaborate cabinet form.

Just about the time Brewster's first stereoscope was introduced, there appeared some stereoscopic Daguerreotype

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portraits and novel lens-holding viewers. It is mounted in a handsome case, provided with a viewer containing a pair of convex lenses, with centers spaced two and one-half inches apart. The pictures, peculiarly enough, are spaced only two inches apart, introducing a little difficulty in viewing, but fusion can be attained. The name of this device is "Macher's Improved Stereoscope," patented March 8, 1953. It was made in Philadelphia.

Unfortunately, many stereoscopes had "eye-strain" as a built-in feature. Many stereograms were poor in definition and contrast, and sloppily mounted. These faults, working together, probably was one reason for the loss of popularity of the stereoscope.

Amateurs who still kept alive their interest in stereoscopy had to perform a number of operations not required in ordinary photography, such as the transposition and mounting of the pair of pictures. These requirements made many give up the pursuit of the art.

Oliver Wendell Holmes called a photograp "a mirror with a memory," and it was this pioneer in the art who chris tened the stereoscopic picture "sun sculpture." The "sculpture" in a stereogram is tenaciously remembered and details are retained that are soon forgotten in a "flat" picture.

Binocular Vision

The sensations received by the eyes are transmitted to the brain where, in a psychic assembly room, the two disparate images are fused together, so that we become conscious of relief in the view. But fusion cannot be accomplished without strain unless the two images are of exactly the same size and the "picture" axes aim at the same points. Inability to fuse exists in an eye disorder called "diplopia" in which double images are seen, and in "anesikonia," the term applied when the eyes form images of different sizes or shapes.

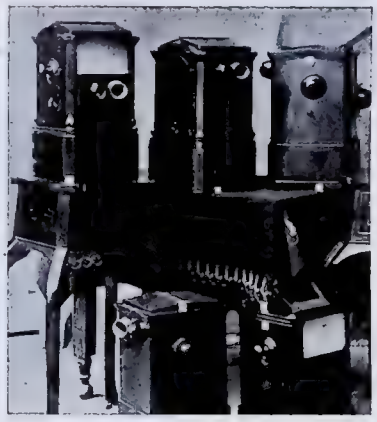
The Stereo Still Camera

A stereoscopic camera not having matched lenses can be said to have "anesikonia," as can projectors with unmatched lenses. If the images on the screen do not align properly, the projector has "diplopia," and the observer's eyes will have to perform acrobatic feats to attain fusion, and in the process, will suffer strain. Veracity in a stereogram exists only if it is taken properly.

Stereoscopic cameras were made in scores of styles throughout the past hundred years. Among the most widely used American stereoscopic cameras was the Stereo Graphic with a focal plane shutter. It took the stereoscopic pair on a five inch by seven inch plate.

The Europeans, principally the French and the Germans, have been very active in stereoscopy and have produced a wide range of cameras and other stereoscopic devices. A well-designed French camera was the Richard Verascope, which accommodated both plates and roll films. Separate magazines were furnished for each. Verascopes were also made in six by 13 cm and 45 by 107 mm sizes. A single guillotine-type shutter operates between the elements of their two lenses. Shutter speeds up to 1/120 of a second were provided.

Other similar European cameras made pictures a good deal smaller than the original Richard, but some made pictures as large as three and one-half inches horizontal and four and one-half inches vertical. The German Ica contained a valuable feature usually overlooked by makers of stereoscopic cameras. This was a provision for changing the lens spacing for principal objects at different distances. The Ica's lenses move toward each other, reducing the lens interaxial when focusing on a near object, and spread farther apart when focusing on a far object. This is a feature of great importance and is discussed later in some detail. Probably, other stereo camera makers will some day make devices to provide the highly useful and often necessary varying interaxial. If it were built into the camera, there would be no necessity for using smaller slide masks that cut down the sides of the image to attain satisfactory viewing, as we find recommended practice for closeups made by many modern cameras.



AROUND THE MIDDLE of the last century there appeared a number of viewers for viewing paper stereograms. A great many of these viewers were often in elaborate cabinets as can be seen here.

Undoubtedly, the camera most responsible for the resurrection of interest in the three-dimensional art is the Stereo Realist. This camera was the first in the modern development of the stereo art which has features that appeal to amateur photographers, particularly those who have been making color transparencies on 35mm film. Like most popular "single-eye" miniature cameras, the Realist has coupled range-finder focusing, easy-to-learn controls and in contrast with earlier cumbersome cameras, it fits the hand.

"Slide Board" for Stereo Still Lifes

A single lens camera can be used to make stereoscopic pictures of still life subjects by mounting one camera on a "slide board." Because only a single lens is used, both images will be of exactly the same size, and there will be none of the faults contributed by a pair of unmatched lenses. The slide board may be a simple one made of wood, but the precision provided by metal construction is much to be preferred. Slide boards can be made as long as desired, but there is

ONE OF THE EARLIEST stereoscopic devices is the daguerrotype with lens stereoscopic.

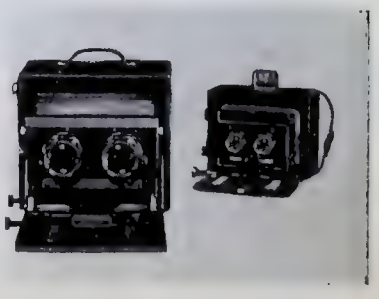
little use for one that permits a camera shift of more than three or four inches, except for very special purposes.

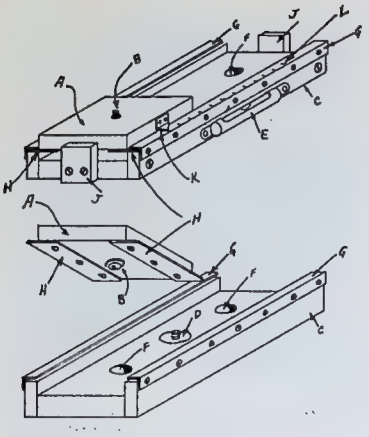
With a slide board, closeup stereograms can be made of objects so small and so enlarged, that the interaxial spacing may be only a few millimeters. The slide board enormously extends the range of effects offered by stereoscopic photography, and it is an economical and convenient method for the person who would like to start in stereoscopy without first buying a two-lens camera.

Kennedy Stereo Camera

Even without a slide board, the single lens, if its aperture is large enough, can be employed to produce stereograms of excellent quality. Its usefulness seems to fall only in the still-life field, since the effective aperture employed for each image is of a rather low order. The system is simplicity itself, and was designed and built by Professor Clarence Kennedy of Smith College, in cooperation with Dr. Edwin H. Land and Otto E. Wolff. Professor Kennedy had employed it principally to obtain large stereograms of sculptures. Its diagrammatic representation shows that only a part of each lens is used for forming each member of the stereoscopic pair. If the lens has a large enough diameter to accommodate the desired result, the two individual lens "stops" can be separated to the required spacing called for by the geometry of the stereogram's planned use. A lens of large diameter, 75mm or more, must be used. Its focal length is determined by the type of stereograms to be made. A large diam-

SEEN HERE ARE two stereoscopic cameras. On the left is a Stereo Graphic, and the right an Ica.





THIS DRAWING represents a simple slide board.

eter demands a lens of long focal length. Consequently, this particular process is limited to still stereograms. Because of the large size of many stereograms used this way, projection would introduce many problems. Viewing boxes are used instead.

Stereographic Drawings and Paintings

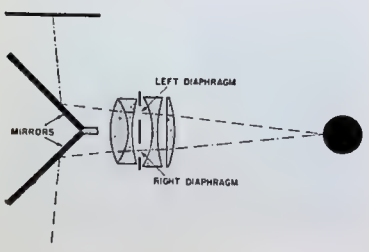
A more or less obscure form of the three-dimensional art is the rendering of stereographic drawings and paintings. As a teaching aid, Professor John T. Rule, of the Massachusetts Institute of Technology, has introduced such novel drawings for celestial navigation and solid geometry. They provide the student an unusually effective portrayal of spatial relationships. Some of Professor Rule's drawings have been published in vectograph form as an adjunct to classroom texts.

In the illustration field, Paul H. Stone has produced a number of striking stereograms. Stone has a theory which makes interesting reading on the subject of how the eyes work:

Our two eyes scan every pin-point of a scene, as rapidly as a television beam; from top to bottom, side to side, and, most important, from near to far. It is less the focus of each cornea than the convergence of the two beams of vision which telegraphs a sense of depth, of distance to the brain.

I believe the actual muscular pull on the eyeballs, whether they are crossed toward each other or straightened to parallel, and infinity, is the recording device which informs the brain about the length of the convergent triangle. Hence the brain can infer with reasonable accuracy, depths, from a few inches to the better part of a mile.

AN ILLUSTRATION of the principle of the Kennedy stereoscopic single lens camera is seen.



Versatile Stereo Camera

While the amateur has available a wide selection of stereoscopic cameras and accessories, there are no well-designed cameras for the professional. If he wants to go into stereoscopy, virtually the only thing he can find is an old Stereo Graphic in a second hand store, or if he is fortunate, one of the excellent Icas. But neither of these has all the features required by the serious worker.

A professional stereoscopic camera should contain, as principal features, a means for varying the lens interaxial and a means for converging the picture axes on any desired plane.

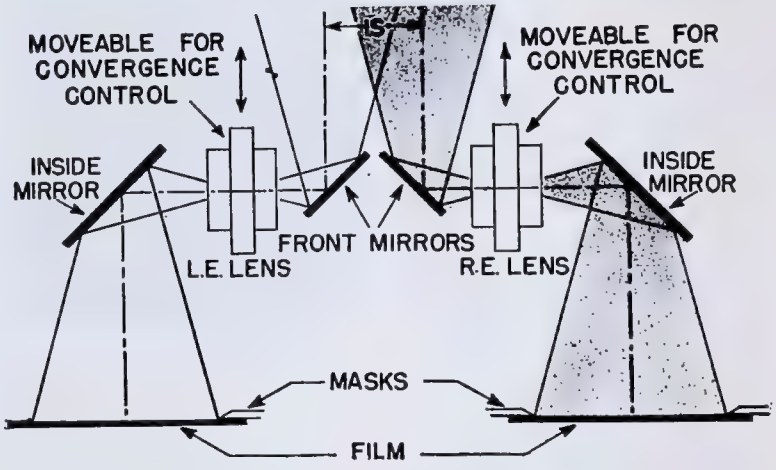
Probably the easiest way to show what a versatile stereoscopic camera is like is to describe one of several types designed by the author. The assembly comprises two camera bodies mounted on a common base. Each has its own lens, but the lenses are mounted in a unique way, pointing off at right angles, one to the left, the other to the right. In front of each lens is a first surface mirror whose face is 45 degrees to the lens axis. A right hand—left hand screw provides a means for moving the camera bodies together or apart, thus controlling the interaxial spacing. This spacing can be varied from one and one-half to six inches, permitting satisfactory setting for objects as close as four and one-half feet, using seven inch lenses. The assemblies which carry the lenses and front mirrors are movable for a small distance forward and backward. This makes it possible to converge the picture axes to any plane desired. The images are framed within metal masks which are mounted so they can retract for the insertion of the film holder's dark slide. These masks accurately define the picture areas, and if the convergence control is properly used, the masked margins provide precise registration for mounting. It should be emphasized that precise alignment of the pictures is an absolute requirement for projected stereograms. If not precisely aligned, the three-dimensional pictures cannot be viewed with complete visual comfort, and the goal of the serious worker is and should be nothing short of complete visual comfort in viewing.

The mask on the right has a small hole close to the picture area that permits a cue mark for the purpose of quickly identifying it, thus facilitating the assembly of the pairs. This camera is used mostly for making color three-dimensional slides, although it has been used to make master black-and-white negatives for vectographs and anaglyph stereograms.

One arrangement that can be employed to attain the variable interaxial feature is illustrated. In this arrangement a partially-reflective, partially-transmittive mirror is used, one camera being placed behind the mirror, the other being placed so that it receives the image by reflection from the partially silvered first surface of the mirror.

This method permits the interaxial to be varied from zero to the limit permitted by the size of the mirror. Of course, the "left eye" camera (in the arrangement shown) will have its image reversed left for right, but that is unimportant because the negative can be turned back to normal in printing.

DIAGRAM ILLUSTRATES an arrangement of components of a special still picture stereoscopic camera.



The mirrors should be the pellicle type, such as we used in some color-separation still cameras. Satisfactory results have been obtained with thin glass mirrors, 1/32 inch thick or thereabouts. A thick glass mirror cannot be used because a second reflection will show in the image picked up by the mirror. If a thin glass mirror is used, the secondary reflection will not be separated far enough from the primary image to become discernible if the mirror is mounted at about 57 degrees.

If a pellicle mirror is used it must be mounted in a frame that will afford the facility for stretching it taut.

Taking Stereo Still Pictures

The stereo still photographer is confronted with just about the same prob-

iems as the conventional still photographer, plus a few extra problems that are peculiar to stereo. Interocular distances, interaxial distances and convergence problems are some of the extras which lie only in the province of stereo. But they are soon mastered and the pleasure derived from their mastery is rewarding indeed.

A difference in focal length between the lenses of a stereo camera of more than one-half of one per cent will produce images differing enough in size to cause eyestrain when pictures are projected.

If glass filters are used on the lenses, there may be enough "wedging" in the filter assembly to throw the picture axes out of line. This is not serious if the misalignment is along the horizontal, but it may be significant if it is along the vertical, and when the pictures are projected, it may be found that they have disturbing vertical displacement between them. This "vertical" may not produce a vivid consciousness of eyestrain, but it may very well produce enough effect to tire the observer after a time. As J. M. Dalzell has said, "Any sensation of visual lassitude, discomfort or even slight pain, is a psychological and mental affair. It is the penalty for exceeding certain geometric limitations which Nature has imposed upon the use of two eyes simultaneously. Its cause is cumulative and lies in the breaking—of one or more of a few exceedingly simple rules—"

To avoid eyestrain, all elements in every plane must have crisp definition such as good eyes provide in their wanderings from plane to plane when looking at a scene. Out-of-focus or "soft focus" areas, whether in the foreground or background, are an abomination that prevents visual comfort in viewing the stereogram.

Since the normal two and one-half inch lens interocular ordinarily should be used on objects no closer than about ten feet, it is apparent that a properly made stereogram can be taken only in a camera having a variable interaxial. Of course, some shots may benefit from a larger interaxial than normal, particularly in cases where an increased depth is considered a dramatic embellishment. By increasing the interaxial several times normal, the depth of such stereograms can be startlingly exaggerated.

The variable convergence feature is a "must" on any versatile stereoscopic camera because it permits the arrangement of each picture within the desired area. To be able to converge to any plane, preferably in front of the nearest object, eliminates the marginal disturbances that occur when the lens axes are parallel. Such marginal disturbances are particularly annoying when they exist in the projected stereogram. The ideal stereogram should be a "real-life" view as seen through a window. Therefore, no object should be permitted to invade the plane where the window exists if that object "touches" any part of the window frame. If it does, the result is a distracting border which gives non-coincidental image reconstitution.

If the "window" is at infinity, as it will be with parallel lens axes, the illusion will be that foreground middle distance and part of the far distance planes are between the window and the observer, a totally abnormal effect.

To create a proper window illusion the masks framing the images must be identically alike in shape and size and their horizontal margins must be level.

Masks can be of any shape. For instance a key-hole mask will provide a stereoscopic view through a key-hole, an anomalous effect since key-holes are so small that real-life peering through one is limited to one eye.

Where objects do not touch the window frame (the picture margins), they can be permitted to come through the window and even made to seem suspended in space between the screen and the observer. In table top photography, one can produce this effect by mounting the subject on glass, being sure it is well inside the picture area and not touching its margins at any point. Convergence is made to occur behind the subject. Viewing comfort is then readily achieved.

Convergence is best accomplished by moving the lenses, not by "toeing-in" the camera bodies. Toe-in introduces a "keystone" distortion that makes the right edge of the left eye picture shorter than the left edge, and the left edge of the right eye picture shorter than its right edge. This kind of distortion may not be considered important, and will be tolerated by some people, but it is one of the things to be avoided if the stereo worker wants to insure that his projected stereograms provide complete visual comfort.

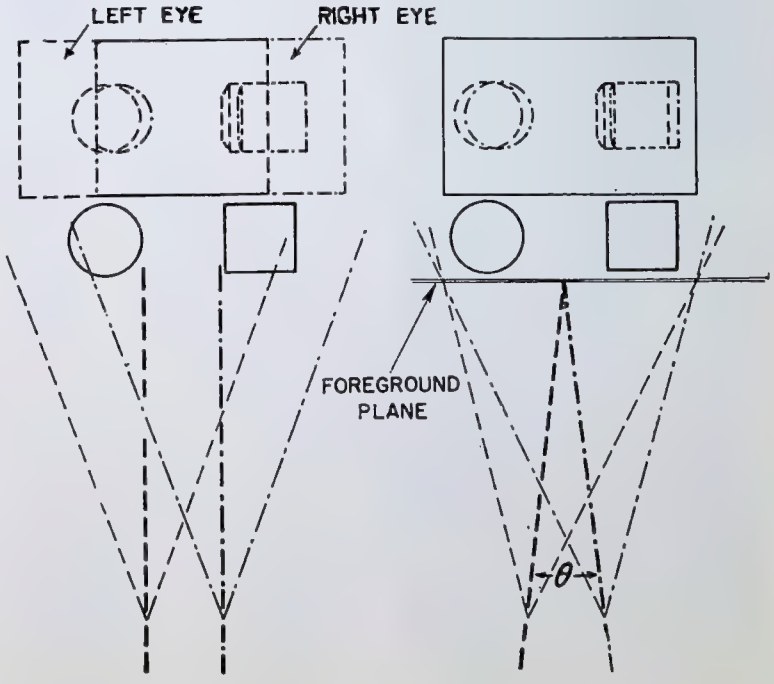
To make a satisfactory stereoscopic picture, the camera must be level and to project the images successfully, there must be no vertical displacement between them and they should not "rotate" one with the other. In other words, the angular alignment has to be the same for both members of the pair.

We may work our interaxial problem out by "rule of thumb." Stereograms that are perfectly acceptable, if properly framed in projection, can be made by taking pictures only of objects further than 50 times the interaxial employed. (This is for camera lenses of the medium angle usually employed.) This rule limits the nearest object to a distance of ten feet with an interaxial of two and one-half inches. It is violated to an extreme if two and one-half inches is used for a five foot distant object, where the indicated interaxial is one and one-fourth inches.

MODERN VIEWING AND PRODUCTION

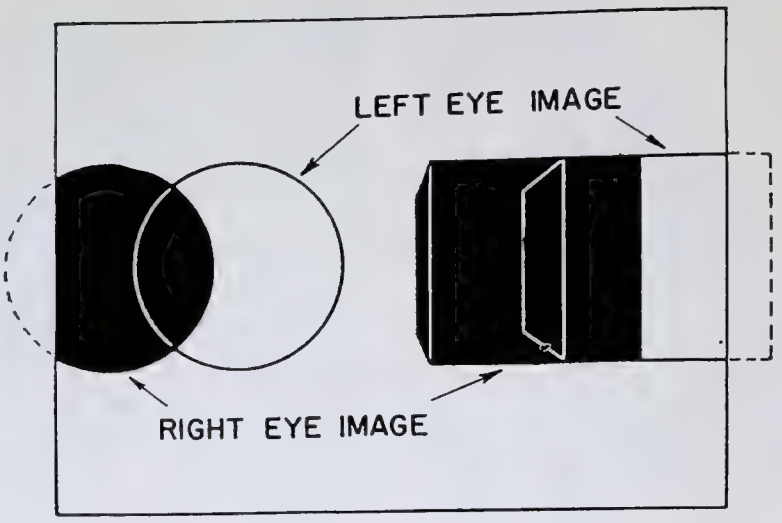
Bringing out a modern camera for three-dimensional use was not enough to stimulate the rebirth of interest in the stereoscopic art. There had to be some device enabling people to see the three-dimensional picture. The manufacturer of the Stereo-Realist appreciated this from the outset, and accordingly brought out an individual viewer. Similar camera-viewer combinations have appeared since the Realist made its debut. But an individual viewing device is hampered by an obvious shortcoming; it limits the pleasure of looking at a three-dimensional picture to one person at a time. This shortcoming does not apply, however, to projected stereo pictures. Shortly after the introduction of camera-viewer combinations, a three-dimensional projector became available and it enables many people at the same time to see and enjoy the same stereo pictures. There are now several stereoscopic slide projectors on the market, all more or less alike.

In addition to the added enjoyment it provides, the projection of stereograms



SEEN ON THE LEFT: The side margin effect with nonconvergent lenses. RIGHT: The effect with lenses converging on a foreground plane.

ILLUSTRATING HOW nearby object images are cut off when image axes don't converge on objects.



to fill a large screen does one more thing that the individual and personal stereoscope never can accomplish, and that is to create the feeling that the scene is big. While it is perfectly true that the picture on the screen may be of the same angle of view as the same picture mounted in a stereoscope, and that theoretically there should be no physical reason why the scene elements should not appear the same in each, looking through a stereoscope very often gives one the feeling that he is looking at a miniature, and he has that feeling whether or not the scene was photographed normally. Perhaps the fact that the picture is itself small in dimension gives rise to the feeling that the original scene must likewise be small.

Most stereograms made today are in the form of slides which are looked at through a hand-held viewer or seen as projected images. The hand-held, self-illuminated viewer is a familiar device. Some viewers, including the Realist, have provision for a variable lens spacing—a valuable feature that contributes to visual comfort. The Stereo-Realist image is seven-eighth inch wide and 15/16 inch high, but there are other mask sizes such as one inch wide by seven-eighth inch high, and one and one-eighth inches wide by 15/16 inch high. All can be mounted in the standard one and five-eighth inches by four inches glass, which will go into the slide carriers of the new stereoscopic projectors. For professional type slides, each member of the stereo pair is made up in standard three and one-fourth inches by four inches glass, and put into a holder which accommodates the two members side by side.

Projection of stereo slides requires the use of polarizing filters, one for each lens, an aluminum surfaced screen, and polarizing three-dimensional viewers.

The projection filters are arranged with their polarization axes slanting 45 degrees from the vertical, one slanting to the right, the other to the left. The viewers have polarizing filters which also "slant" in the same manner. Consider the light from the right hand lens, with a polarization axis slanting toward the left. The light reflected from the screen can be seen through only the right-eye polarizing filter, because it too has the same left-hand slant while the left-eye filter has a right-hand slant, 90 degrees from that of its mate. Thus the "right-eye" light is blocked from reaching the left eye, and the "left-eye" light is blocked from reaching the right eye.

The reason for using an aluminum surfaced screen is that this type of surface will not disturb the polarization of the light. A fabric or glass-beaded screen will cause the polarization to disappear, the light to become ordinary light again. The result is that the two images will be seen by both eyes, and will look jumbled like a double exposure.

Plastic screens are now available for rear projection of polarized light stereograms. Rear projection adds a brilliant quality quite different from the reflection method, although a "hot spot" may be disturbingly apparent unless arrangements are made to keep the spectator's eyes and the projection axis from lining up.

For extremely dramatic stereogram presentations, a picture 18 inches wide can be thrown by a projector containing two 1200 watt bulbs and a pair of 18 inch f/3.8 lenses. With a picture this wide, an audience is usually given to "oh-ing" and "ah-ing" with delight and surprise as each successive stereogram appears on the screen.

Hyperstereoscopy

Hyperstereoscopy is the term applied when an interaxial base several times normal is used. It has often been employed in mountain photography and serves admirably to reveal distant details in relief. The base employed is often 100 yards or more. Care must be taken not to include any foreground, otherwise one image will contain elements not present in the other, and it will be impossible properly to fuse the stereogram. Since mountains can usually be depended upon to stand still for a long time, there is time to set up the camera and to transport it from one extreme of the interaxial base to the other. But clouds are not so considerate in "staying put" as mountains, so the exposures should be made on a cloudless day.

Hyperstereograms, properly made, require that certain rules for determining the interaxial be followed. The simplest one is

$$\frac{d \times D}{D - d} \div 50$$

where d is the distance to the nearest object, D the distance to the farthest and 50 the divisor whose use assures success.

Keeping within the limits prescribed will give the stereograms the post vivid relief possible without eyestrain in viewing.

Hyperstereoscopy has been employed to make stereograms of bodies in the solar system, where even the mean diameter of the earth often proves insufficient as an interaxial base. Stereograms of most planets have been made and interesting data has thus been obtained. Included has been the discovery of a planetoid, which was found as the result of this type of stereoscopic survey, and it was appropriately named Stereoscopia in tribute to the method. Stereograms of the moon have been made which reveal intimate details of its craters and seas. Some of the most remarkable have been those of Saturn and its rings, one pair of which required the movement of Earth through space that was the equivalent of an interaxial base of about 1,000,000 miles, which is the distance traversed by our planet in its orbit during a 24 hour period. Other stereograms of this planet made with an even greater base disclosed clearly the separation of its unusual rings one from another and from the planet.

A word of warning concerning hyperstereoscopy: it does not seem to produce satisfactory results for close-up objects, and certainly will not do so if such stereograms are projected. This is so for close objects because the angle formed between the two lenses at the base and the object is so great that it throws distortion into the images. For instance, photographing a golf ball at a distance of one foot and using a wide interaxial will produce a stereogram which makes the golf ball appear egg shaped, and golf balls having this shape give neither the player nor the viewer any pleasure.

High speed stereoscopic photography is often employed for special purposes. Such stereograms often reveal things not readily apparent in a flat picture. They are particularly useful in the study of machine elements in motion and for other kinds of research. A series of three high-speed "strobe" shots were made for United States Rubber Company to prove the behavior of a golf ball. These shots were made on Ektachrome film at a speed of one-millionth of a second, using one of Professor Harold E. Edgerton's newer flash units. Professor Edgerton and Henry Lester worked together in obtaining the shots. The projected pictures showed no "egg-shape" distortion which would have resulted if

an interaxial larger than called for by the object distance had been employed.

No graphic means, besides the stereogram, can substitute for the re-creation of the "real" in a still-life, and in stereo movies realism reaches the ultimate, for they can include movement, color, and action as well as depth.

The principles employed in photographing and projecting stereoscopic slides also apply to stereoscopic motion pictures. The same fundamental requirement that each eye sees only the picture intended for it also applies to the moving stereogram.

35mm STEREOSCOPIC MOTION PICTURES

That the industry could use something to combat television's capture of more and more of the theatre audience is undeniable. Stereo movies might well induce people to return to their former favorite amusement. But the return is likely to come about in the mass only if the film theatre gives them something they can't get on a 17 inch TV tube, namely the ultimate in photographic realism, the stereoscopic movie in full color, with all the dramatic possibilities that are only waiting to be appreciated. The enthusiastic public reception given some earlier stereo movies, and the dollar profits from these movies are a matter of record. Newer, better stereo techniques are now available, and the reason for introducing them was never more pressing.

The Anaglyph

One of the early and noteworthy theatrical exhibitions of stereoscsopic motion pictures occurred in 1924, when J. F. Leventhal produced a few "shorts" utilizing the anaglyph process. There followed an eleven-year lull in the use of stereoscopic films. Then, in 1935, Loucks & Norling Studios and Leventhal jointly produced a series of short films again employing the anaglyph principle, this time in talking picture form. These films, which were called "AUDIOSCOPIKS," were released by Loews, Inc. and proved to be some of the most successful short subjects ever issued, winning not only domestic acceptance, but an unprecedented play in the foreign field, notably in France, Spain and Great Britain. That their success should have indicated further pursuit of the anaglyph process seems logical. But the producers had, from the beginning, realized the inherent limitations of the anaglyph process and concluded that films exhibited by that process would only be adequate as novelties and would never be tolerated for full-length feature releases. This conclusion was arrived at by a recognition of the visual "insult" resulting from the projection of one color to one eye and its complementary to the other. This sort of delivery of images, one color to one eye, another to its mate, produces "retinal rivalry" and brings on physiological disturbances that may induce nausea in some observers if they look at the anaglyph movie longer than a few minutes.

Since this process—the anaglyph—has played an important role in the advance of the stereoscopic art, it would be well to describe it here briefly. Its invention is credited to Ducos du Hauron, who applied it in 1895, although there is some evidence that its possibilities had been explored many years before that.

In one form, the anaglyph images are on two separate films. One member of the stereoscopic pair is projected through a filter of one color, the other through a filter having a color complementary to that of the first. In another form, the one that was used for "AUDIOSCOPIKS," the anaglyph images are printed in complementary colors directly on film and projected in a standard projector without filters.

The projected images are viewed with spectacles having windows of the same colors as the colors on the screen. Red-orange for the right eye filter and blue-green for the left are often used. The right-eye red-orange filter in the viewing spectacle renders the blue-green right-eye image in monochrome and the left-eye blue-green filter renders the red-orange left-eye image also in monochrome. Since dyes and pigments hardly ever are capable of transmitting only the color they are supposed to transmit, there is rarely a complete "cutting" of one color; some of it always comes through so that part of the blue-green image which is supposed to be blocked by the blue-green spectacle filter leaks through, producing a "ghost" image. So, in reality, one eye sees a part of the image intended for the other; the "part," of course, being defined as a very dim, but still discernible remnant of the whole "other-eye" image.

Good picture quality has never characterized the anaglyph. This and other shortcomings make it eligible for discard as a practical system for motion picture features.

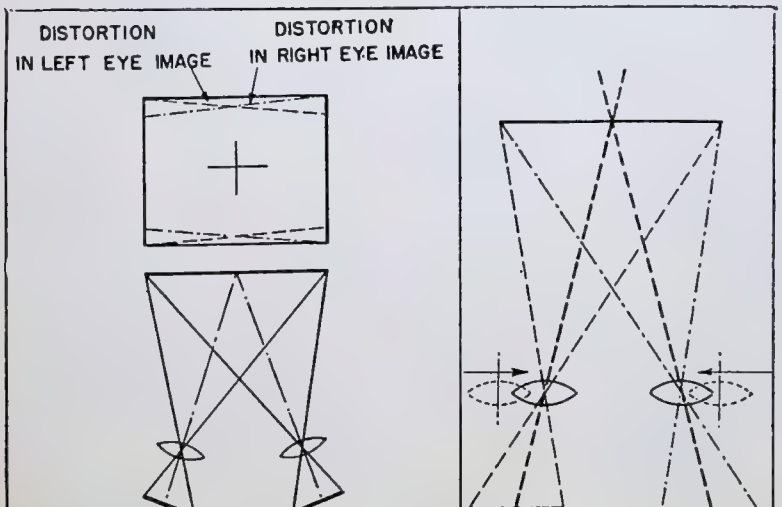
Since the introduction of Polaroid light-polarizing filters, it is possible and practical to substitute these for the red and green filters of the original anaglyph process. Strictly speaking, the polarized light method may be defined as another form of the anaglyph. Actually, Polaroid Stereoscopy would be a good name for it, since Dr. Edwin H. Land, head of Polaroid Corporation, invented the first practical and efficient synthetic polarizer which hastened the increasingly widespread use of the present satisfactory methods of stereoscopic projection.

Stereoscopic Motion Pictures at the New York World's Fair

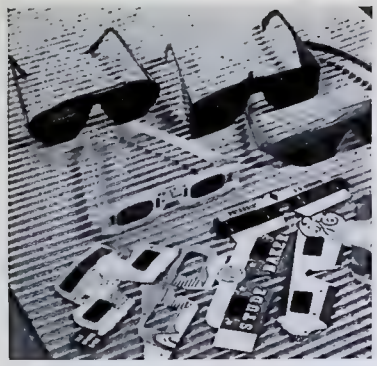
The first large-scale public exhibition of a 35mm stereoscopic motion picture with excellent picture quality took place in 1939 at the New York World's Fair. That year a black-and-white film was shown. The following year a similar subject was exhibited in Technicolor. More than five million people saw these films, and they're still talking about them. Some of the production and exhibition problems posed by these pictures are interesting to consider.

The camera assembly for the black-and-white picture consisted of two Bell and Howell professional 35mm cameras mounted so that one was "upside down" in relation to the other. This was done so that the lenses could be brought close together. Even with this arrangement, the interaxial was not ideal. It was fixed at three and one-fourth inches although calculations showed that some scenes actually required as close as one and one-half inches interaxials. But no such camera was available then, nor was there time to have one built. However, a complete set of matched lenses of different focal lengths effected a quite satisfactory compromise with the ideal.

The greater part of the picture was a sort of fantasy, showing the parts comprising a Plymouth car dancing around and assembling themselves. Their movements were in synchronism with music and required the use of "stop motion" photography; that is, "one frame-at-a-time" shooting. But a substantial part of the film contained "live action" shots taken in the foundry and shops and along the assembly line. The narrator for the film was Major Bowes of Amateur Hour fame. He appeared in "live action" in one sequence in which he spoke. This was the first "live action-live dialogue" shot ever made in a stereoscopic presentation. It created some difficult prob-



LEFT: THE distortion resulting from the "toe-in" of camera lenses. RIGHT: A method of convergence used to overcome this distortion.



VARIOUS TYPES OF POLARIZING 3-D viewers.

lems since the cameras would not fit into any available studio "blimps." However, the sequence was shot without any parasite camera noises being recorded, thanks to the intelligent help rendered by Walter Hicks, then of the New York Fox-Movietone Studios.

Since the Chrysler film was shot in a two-camera setup, and no special photographic and projection facilities for single-film handing was available, it was necessary to project with two projectors. A rather complex Selsyn motor drive was used for interlock, although a much simpler synchronization could have been attained by a straightforward mechanical linkage, such as was used for the Pennsylvania Railroad stereoscopic movie display at the Golden Gate International Exposition in San Francisco in 1940.

The dual projector system used at the New York and San Francisco Fairs is substantially the same as that recently on exhibition at the Festival of Britain. According to press reports, it is also the same system which has recently been demonstrated by the Natural Vision Corporation of Hollywood.

A Technicolor film, using the stop-motion technique as well as live action shots on monopack was our next stereo production. For the stop-motion sequences, a unique filter attachment was arranged in front of the camera lenses. The filters were mounted on wheels which rotated together. Color balance was attained by making sectors having angular dimensions calculated to pass the quantity of light required for each color and as demanded by the sensitivity of the film. The "A" (red) filter passed light to which the film was more sensitive than that passed by the "B" (green) and "C5" (blue) filters. Consequently, the red filter had the narrowest opening of all and the "C5", to whose transmission the film was least sensitive, had the widest opening. The exposures were made by the alternate frame method of color separation. Three frames, one the red record, one the green, and one the blue, were made instead of one frame as in ordinary photography. This procedure is followed in the photography of animated cartoons.

These separation negatives were used by Technicolor to make the printing matrices from which the dye imbibition prints were produced.

It has always been the author's opinion that the stereoscopic camera for professional use should be built to take the images on two separate films. This is to afford the greatest flexibility in the studio and to permit the use of short focus lenses and to facilitate the making of optical effects in the duplicating processes. One such camera was built. It contains the features deemed essential to a versatile camera. The most important are a variable interaxial and a convergence control, but important too is a binocular finder showing in miniature a three-dimensional view of the scene to be photographed. Visual inspection during focusing seems superior for stereoscopic work and focusing is easier when the view is seen in three dimensions. The binocular view finder has an additional advantage: it enables the cameraman to compose the scene stereoscopically using the interaxial and convergence controls, manipulating them until he gets the best possible arrangement. He can increase the interaxial if he wants to increase the apparent depth of the scene. He can reduce it if nearby objects demand it.

DUAL IMAGES ON ONE FILM

Systems for stereoscopic films using dual images side by side or one above the other have also been proposed. One of the problems in the two-image arrangement, whether in tandem or side by side, is the loss of light, because the light-covering circle covers a large area around the area occupied by the two images.

The ordinary circular light spot from the projector arc spills light all around the images. This condition can be improved upon by a light condensing system having a cylindrical lens element. Then the light spot becomes oval instead of round.

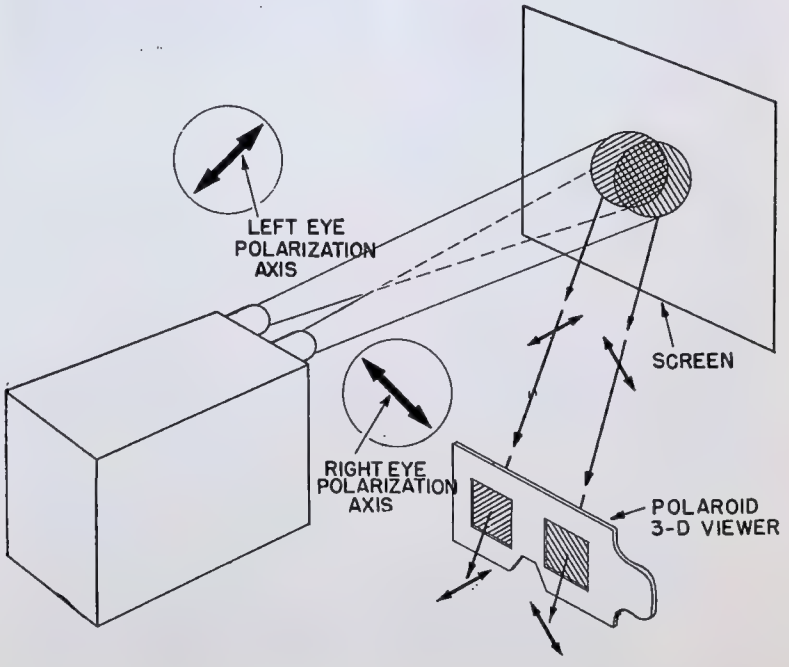
The Newcomer Anamorphoser

Another method is to introduce an optical device on the camera to compress the images in one direction, and a similar device on the projector to expand them back to normal proportions. Such an optical device is called an "anamorphoser." Several types have been constructed, but it remained for Dr. H. Sidney Newcomer to design one that does not introduce serious aberrations and have other optical handicaps. The Newcomer Anamorphoser is capable of effecting a compression of the image to almost two-thirds and an expansion of almost one and one-half times.

The Beam Splitter

Among the methods suggested for the employment of a single film to carry the two images is the "beam-splitter" in one form or another. The device has two pairs of mirrors (or prisms) placed in front of the lens and arranged so that the pair on the left will cause the left-eye image to be selected for projection to the screen and the right-hand pair will do the same for the right-eye image. It is a simple device and easy to use.

The beam-splitter is a device that does exactly what its name implies; it splits the light beam into two parts. Hence, the intensity of each part cannot be greater than half of the whole beam. But in addition to light loss, it has another drawback. The pictures overlap considerably, making it impossible to mask them to a stereoscopic window. The window must be artifically produced by a black border on the screen to absorb spill-over light. Another shortcoming: The camera lens works at something less than half the f/stop setting shown on the lens. This means more than twice the amount of light required for conventional photography. When it comes to shooting interiors, this added light requirement



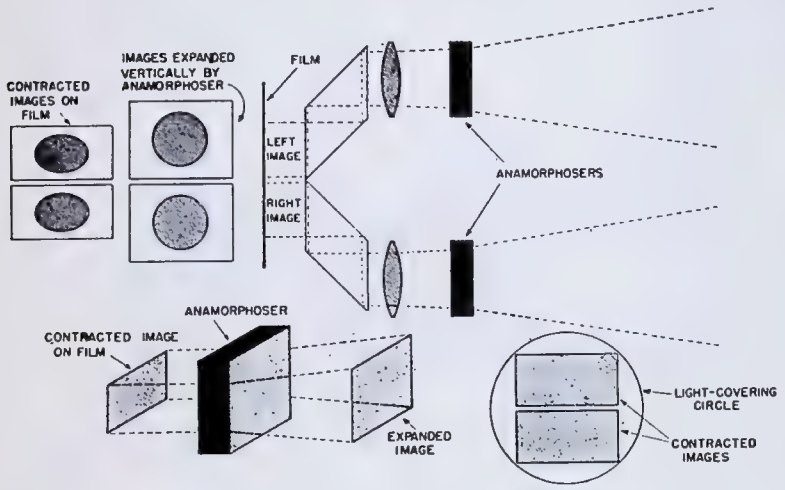
THIS DIAGRAM ILLUSTRATES THE principle of polarized light stereoscopic projection.

proves to be an economic disadvantage of the beam splitter method. There is a corresponding light loss in projection, and here the loss is even more significant. Take the loss inherent in the beam splitter, add that to the loss in polarization and you find that you're getting about one-twelfth the light that you had when you projected the full frame in the conventional way. Another disadvantage of the ordinary beam-splitter is the picture proportions it gives—a narrow and tall picture, certainly inappropriate for stereoscopic representation which is so well suited for panoramic views.

Another proposed device has dual lenses producing pictures side by side. There is no light loss in the camera, since two lenses are used and the window for each picture is quite sharp. However, there is considerable loss in projection if the attachment is used on a projector not provided with a special condenser system. If the standard projection is retained, each image is less than one-fourth the area of the full frame.

Another method which has been proposed for simultaneous projection, is the arrangement of images with one member above the other. Special projectors would be required.

DIAGRAM OF THE "ANAMORPHOSER" principle applied to motion picture photography is seen below.



Sequential Frame Projection — "Eclipse" System

From time to time, the alternate projection of the members of a stereo pair has also been proposed. In this system, the right eye image, for instance, is projected first, then the shutter interrupts the light beam while the film moves down to position the left eye image. Thus there are periods of flicker that occur at different times for each eye. If we break this sequence of events down, we find that the first light period has a value of 12.5 per cent of the complete picture cycle. The flicker blade on the projector shutter (considering a two-bladed shutter) gives a dark period lasting 12.5 per cent to be followed by a light period of the same, then a long dark period consuming 62.5 per cent for pull-down and eclipse to permit the other eye to see its image. If standard sound-film speed of 24 frames a second is used, the resulting flicker is very annoying. Stepping up the projection to 48 frames a second increases flicker frequency twice, but it still is noticeable. There is a physiological effect that is likely to become disagreeably apparent —usually headache or nausea—after a few minutes of viewing pictures projected in this way. A complete period of darkness for one eye, while light reaches the other, will probably always result in visual fatigue, if not in nausea, no matter how high, within workable limits, the flicker frequency is brought.

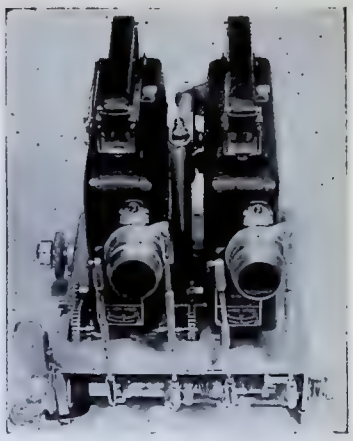
Flicker of low frequency calls for traction on the control muscles of the irises when bright light enters one or both eyes. The rapid occurrence of the transmission of stimuli, first from one eye, then from the other, and the motor messages from the brain to the muscles, delivered in rapid sequence, probably accounts, in part, for the visual discomfort experienced by most people when viewing "eclipse" stereo movies.

Perception of flicker depends upon the flicker frequency. The more intense the light, the higher the frequency must go before flicker fusion is attained. Also, the larger the angular field over which flicker is distributed, the greater the consciousness of flicker. Hence the dimmer the picture and the smaller it is, the lower becomes the flicker fusion frequency.

There are two ways to project and view eclipse stereograms. One is by using rotating or vibrating shutter devices held up in front of the eyes. These are synchronized electrically with the projector. The other method is to employ a rotating polarizer in front of the projector lens and polarizing spectacles for the viewer. In one position the polarizer delivers light through the left spectacle filter, in the other through the right filter.

Alternate frame, or eclipse, projection should have at least twice the number of frames required for conventional films. That means doubling the length and providing for faster projection speed. If the alternate frames are photographed alternately, there is a very objectionable fringing in pictures of moving objects. This is a cause of eyestrain, especially in a picture where the action seen by one eye is in quite a different stage of progress than the action seen by the other. Difficulty in fusion invariably results. This combination of disturbing effects caused by flickers out of phase between the eyes and by fusion trouble, limits the appreciation of the eclipse method.

Complete visual comfort can be attained in stereo movies only if the two images are projected simultaneously, if they are rock-steady, if they are of equal brightness, if they are of equal contrast, if they are properly aligned vertically and horizontally, if far distant points are not separated too far in one image from that of the other, and if they are of exactly the same size.

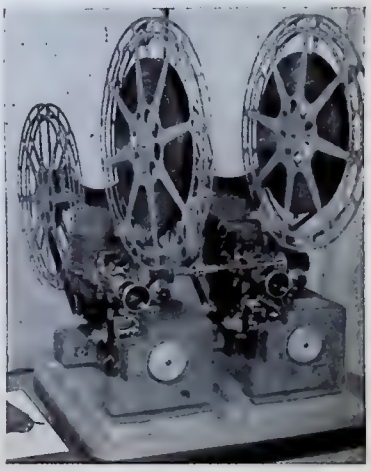


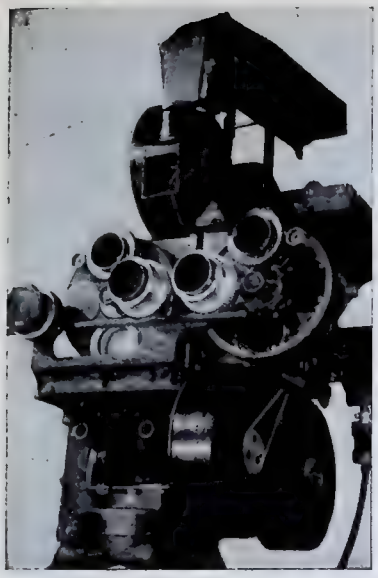
INTERLOCKED 16mm cameras for 3-D photography.

Improved Single Film Methods

Several inventions by the author eliminate the draw back of the single-film dual-image arrangement, namely the unequal distribution of light. These methods

16mm PROJECTORS interlocked for 3-D projection.





BELL & HOWELL 35mm camera interlocked for 3-D photography. Focusing done by rack and gears.

employ novel optical systems which are accessory attachments to standard projection heads.

If one member of a stereogram has even a slightly different brightness, some eyestrain will result. If the difference is large, the resulting eyestrain will be great. This is because the action of the eyes' iris diaphrams is entirely automatic and not by voluntary control. If strong light falls on one eye, both pupils will contract and the eye seeing the darker image will have its pupil closed down more than it should be properly to see the image. In accommodation too, both eyes act together and it is impossible for one independently to accommodate to a different extent from the other.

The improved single film methods satisfy one of the basic requirements for good stereograms, easy to look at, in that both members of the pair are of the same brightness. The illustration shows a pair of pictures having image attitudes in a conventional arrangement. The diagram on the right shows an improved arrangement. It affords the best possible distribution of the light from the projector arc.

The illuminating spot from the arc is considerably more intense in its center than in its outer regions. With images having the attitudes shown in the left side diagram, more light falls at the top of one picture than at the top of the other, resulting in a different level of illumination in an area of one than in the corresponding area of the other. The arrangement shown on the right provides equal illumination in corresponding areas, because all portions of the light spot fall upon the same corresponding areas in each member. This meets the requirement that there be equal brightness for each image in order to attain complete visual comfort. It may seem surprising that the intensity difference between center and edges of the light circle is significant. Actually, in practice, projection engineers are quite happy if there is only a 40 per cent loss,—60 per cent as much light at the edges as in the center. In many theatre installations, the fall-off is as much as 50 per cent.

The projection end of this system, using standard projector heads, has two optical trains containing prisms as well as lenses. These components are arranged so that the light beam enters and exits normal to the prism surfaces and there is no displacement or distortion such as would take place with wedge prisms. Alignment of the images on the screen is effected by a micrometer control to shift the lenses. In the lower optical train, transmitting the right eye image (the one having the conventional attitude), the image passes through in the conventional manner, reversing to "heads up" in the projection lens. In the upper optical train, transmitting the left eye image (the one having the "flipped over" attitude), the image is brought to conventional attitude in a pentaprism and right angle prism forward of the lens. The polarizers are placed in front of the lenses away from the intense heat.

Prints for this system of projection are not made directly from the original negatives. Duplicate negatives produced in an optical duplicating process are used instead.

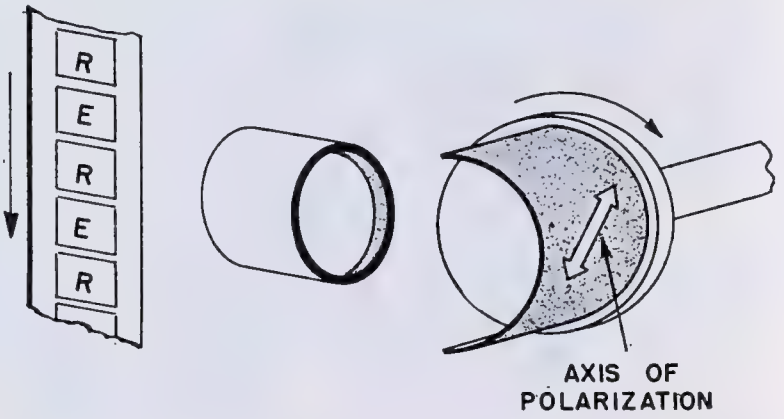
Another improved single-film method has the images turned on their sides. This arrangement provides for the use of the full standard aperture in case the pair of images is to occupy only one standard frame. A series of prism elements between the film and the lens turns these images 90 degrees. The inverted image is "flipped over" in the pentaprism and the right angle prism in front of the lens. Otherwise, the practical advantages of this variation are comparable to those of the method which is discussed in the preceding few paragraphs.

Another method, devised by the author, for attaining equal illumination for both members of the stereoscopic pair is also illustrated. Here, there are two mirrors arranged between the light source and the film. The lower mirror is a transmission-reflection type, with a reflective coating that will reflect half the light to the upper mirror, one-half the light passing through to one member of the pair. The upper mirror reflects one-half the original light beam to the other member. Again, two projection lenses are used, as in the other systems with the polarizers in front of them.

In the system the images *do not have to be inverted* in relation to each other, since the illuminating circle falls upon the same corresponding area in each. The light-circle can be reduced in size to fit the area occupied by one frame, adding efficiency. Added efficiency also results from the reduction in the number of glass-to-air surfaces. Additionally, there is less possibility for dirt or "fogging" on the optical elements. In contradistinction to the other methods, which require no lamphouse changes, this method does require a few changes in the lamphouse to accommodate the two mirrors.

A dual-image single-film does not add significantly to print costs, to the costs

DIAGRAM OF THE "rotating polarizer" method of alternate frame stereoscopic projection.



BELL & HOWELL camera provided with three color filter wheels for 3-D separations negatives.

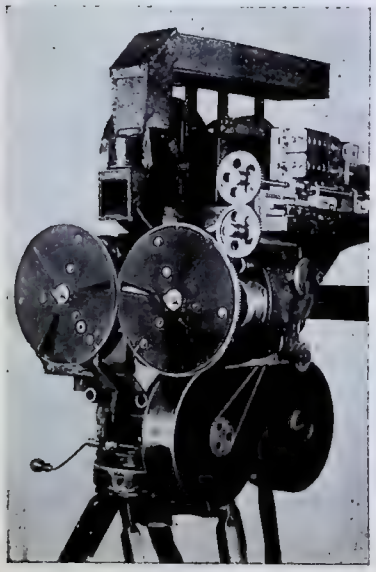
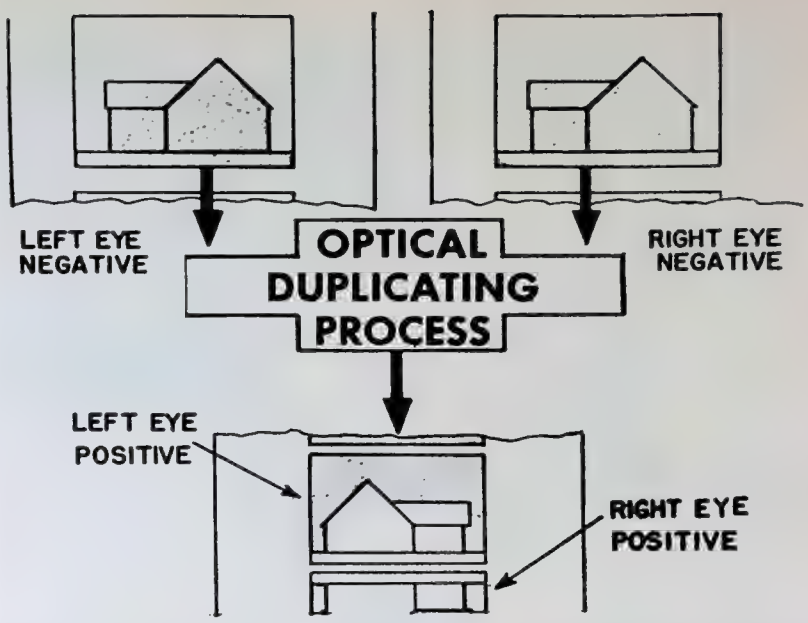


DIAGRAM OF transfer images from two negative films to single film carrying the two disparate images can be seen in the right column.



of studio production, shipping and handling costs between exchange and theatre, nor does it require dual projectors and added labor costs for projection. This single projection method does not introduce the unwanted possibility of images out of synchronism with each other, a hazard that exists in dual projection. It assures precise registration, one image with the other. Alignment is no problem, since both images are framed together by the same frame-setting lever. There can be no juggling or jittering between the images such as is present in any dual system no matter how well made the projector mechanisms.

OTHER STEREOSCOPIC METHODS

The Friese-Greene Process

The first stereoscopic motion picture was made by William Friese-Greene who patented his process in 1893. He used two negative films, one behind each lens. The positive images were projected side by side on a screen and viewed through a cumbersome stereoscope permitting each eye to see only the picture intended for it. The complexity of this system barred it from any commercial application.

The Grid System

The grid system has been frequently proposed and a large number of variations on the basic method have been suggested during the past 40 years.

Basically, the grid system employs a screen containing a large number of vertically placed parallel opaque bars forming a grating having open or transparent spaces between them. This grid is placed some distance in front of the projection screen, the grating in the grid being designed so that the right eye sees only that portion of the screen on which the picture record for the right eye appears, the bars in the grating hiding the left eye image from the right eye. It does the same thing for the other eye.

The chief problem in using the grid system is that the observer's viewing distance, angle of view, and of eye placement in relation to the grid are of a fixed interlocking relationship. Disturb one of the three and proper viewing fails. A slight shift to the right or left results in the breakdown of "correct individual seeing" for each eye, and a double image become apparent, or else a pseudoscopic effect results. Improvements have been made on the basic grid system, but serious shortcomings still remain as an intrinsic part thereof. This particularly applies to the loss of light. While a light loss is common to all stereo projection systems, it is particularly severe in this one, due to the fact that the opaque areas in the grating have to be (in most cases) about three times that of the open areas in order to keep the images from overlapping.

Another matter that must be given consideration is the appearance of the grating to the observer. The dark bars and light spaces should be small enough to be virtually invisible as a banded pattern. To make the grating lines invisible, the spacing of the elements should be no larger than about 1/3500 of the viewing distance.

We shall call the grating space G_s.

Then $$G_s = \frac{D_v}{3500} \text{ (or more)}$$

Where D_v is the viewing distance.

Thus, if $D_v = 60''$, $G_s = .0175''$, approx.

And if $D_v = 120''$, $G_s = .035''$, etc.

The distance, d_g, of any selected grating in front of the screen depends on the relationship of the distance D_v to d_g or by the relationship of I to D_v.

With the usual grid system, the picture through the grating is viewed by converging the eyes at or near the grating, forming an angle. In order for the grating effectively to select the images properly for the eyes, the disparate members of the stereoscopic pair must be projected through the grating at the same angle.

The New York *Times*, early in 1944, reported that Simyon Ivanov, a Soviet poster artist, had invented a screen made up of tiny squares of thousands of strands of fine wire which produced third-dimenseional effects without the use of eye-glasses. James Aldridge, writing on the same subject for the North American Newspaper Alliance, reported that the images reproduced through the screen were "coarse and blurred."

The article goes on to say that the original Ivanov grid system had been improved and developed in the Sgvintorgkino Studio to the point where it promised to become practicable. To quote from the article:

The glass screen is engraved with more than 2,000 converging lines, and it is in these markings that the secret of the new screen lies. In photographing third-dimensional movies, the only alteration required on standard cameras is the addition of two or more mirrors fitted near the lenses to reflect the images onto the film.

Obviously, this appears to describe Ivanov's photographic process as being an application of the beam-splitter principle.

The article goes one to say:

In showing the film, it is projected onto "two or more mirrors," instead of directly onto the screen, which reflects the shadows onto the glass screen. In turn, the lines on the screen unscramble the images, resulting in a clearer image than has hitherto been obtained in third-dimensional film experiments.

Then, in October 1945, the Wall Street *Journal* reported further on the Ivanov development:

Moscow (AP)—TheSoviet film industry is preparing a surprise for the world's movie fans — a special production of *Robinson Crusoe* to be exhibited on a new stereoscopic screen designed to give rounded, three-dimensional images.

Semeon Pavlovich Ivanov, the inventor, said that the screen creates an illusion so perfect that people unconsciously dodge when pictures of birds or airplanes are shown.

Ivanov said he believed the screen surpasses anything Hollywood had done to achieve realism in the exhibition of motion pictures.

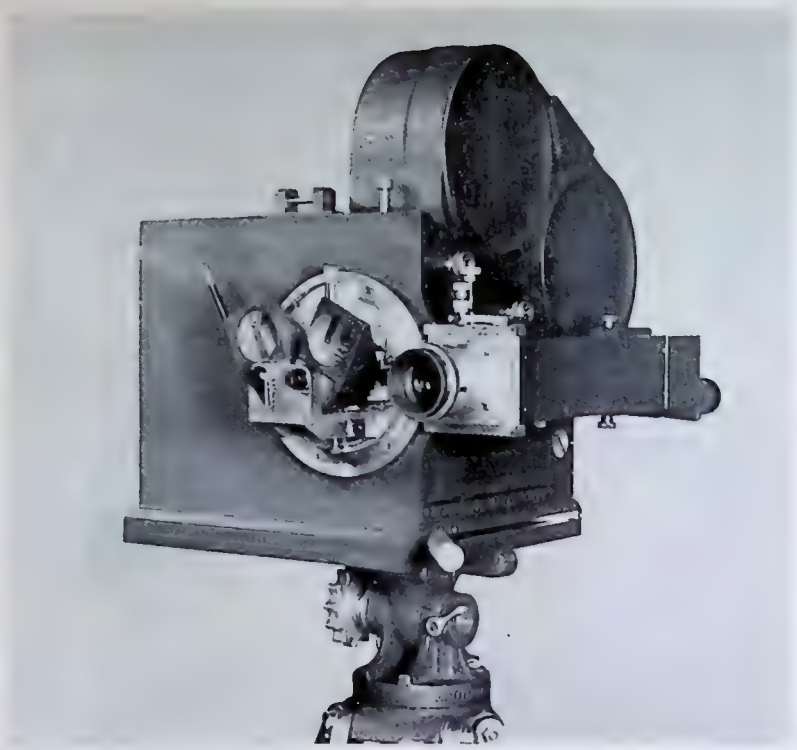
On April 29, 1948, the New York *Herald-Tribune* published the following:

Moscow, April 28 (AP) — The Communist newspaper "Pravda" disclosed today that Semyon P. Ivanov, described as the inventor of three-dimensional motion pictures, had been removed from the job of scientific chief of the special studio in which he perfected the invention.

The newspaper (Pravda) said that I. Bolshakov, Motion Picture Minister, did not take Mr. Ivanov's work seriously, tried to picture him as a faker and publicity seeker and finally pulled him off with the excuse that he was freeing him from his administrative duties.

Pravda went on to state:

That's how the cinema industry freed itself of the worrisome individual whose name will go down in the history of the Soviet and world cinema.



FRONT VIEW of the Norling camera reveals the V-shaped variable interaxial control. At base is a micrometer adjusted to control convergence.

Truly, workers on the grid method of stereoscopy have a bad time when someone discovers that the images don't appear satisfactory throughout an auditorium.

Parallax Stereograms

Parallax stereograms are of two principal kinds, one using a grating, or "grid" as the selecting screen placed in front of the images, and the other using a selective screen consisting of small cylindrical lens elements, lenticules, side by side, and running vertically.

The "grid" system was introduced by Berthier in 1896 and was the first form of stereoscopic viewing of still pictures that did not require accessories. The grid consisted of vertical bars with spaces in between. The grid was usually made on a high contrast photographic plate. The picture was a composite which had the two images broken up into bands, the image bands for one eye being interlaced between the image bands for the other. When the grid was spaced at the prescribed distance in front of the composite and viewed from the correct distance, the observer was able to see a binocular view.

The "lenticular" system used a selective screen sometimes registered in front of the images; sometimes directly bonded to the composite photograph. The lenticules do not cut down the reflected light as do the bars in the grid system. In one system, the composite picture is made in a single lens camera which swings through an arc during exposure. The center of the arc is in the plane of the subject.

Lenticular systems are credited to several inventors; among them F. E. Ives and his son, Dr. H. E. Ives. Dr. Ives called his the "Parallax Panoramagram." Improvements have been made and further developments carried out by the Americans, Banbenschoeten and Winneek, and the Frenchman Bonnet.

The Zafiropulo Process

Another invention employing the lenticular principle is that of Jean Zafiropulo, who set out to apply it to the motion picture in particular. The process requires extremely accurate alignment of all elements in photography and projection.

The Zafiropulo process involves the use of a film containing embossed spherical lens elements in its base. Prints must have their lens elements exactly aligned with those in the negative. The lens elements must register with the greatest exactitude in relation to the sprocket holes in the film. Sprocket teeth, engaging the sprocket holes, serve as the basic registration points for picture steadiness. Film shrinkage, which is over one-fourth per cent in the lowest-shrink film base, will have to be overcome to prevent lens-element misalignment with relation to the sprocket teeth, and in turn to prevent misalignment of the film lens-elements and the screen lens-elements.

The Zafiropulo process requires only one lens in photography, but is must be of large diameter, from two and one-half inches to three inches, and such a lens must be of long focus, over six inches in an f/2.5 lens. This is about 153mm compare with 40mm and 50mm lenses, which are the most frequently used in film studios. This long focus lens requires more studio space than is needed in conventional filming.

Several other methods have been proposed for the lenticulated (goffered) film process of movie stereoscopy. One is, in essence, an application of the "beam splitter" principle, differing from it in that it produces a series of bands for each image. One band, for part of the left eye image, is formed through each lenticule, and another band is formed adjacent to it for the corresponding part of the right eye image, through the same lenticule. The lens must be operated at its widest aperture.

Lippman's "Integral System" of Stereoscopy

The process of "integral" photography discovered by Lippman in 1908 utilized a screen composed of an almost infinite number of small "lens elements" in the form of pin-holes. It affords what most who have seen it consider the ultimate in stereoscopic viewing. It differs from any other system of stereoscopy in that it provides a much larger number of images in the plane of the photograph and "reduces the number of viewing instruments to zero." But Lippman's integral photographs can be made only as transparencies, and they cannot be projected, nor can they be reproduced to supply copies that have the qualities existing in the original.

These integrated stereograms are made through a screen having a great number of pin-holes, each acting as a camera lens. No camera is used; the pin-holes serving as lenses. The screen can be a photographic image in a contrasty emulsion on the front side of a glass plate with the photographic image produced through it on an emulsion on the back. The holes must be quite small; their size being established by the rules applying to pin-hole photography. There must be a great number of holes for every square inch, and the plates should be quite large, eight inches by ten inches or more.

Exposure is made through the pin-holes, and since the effective aperture of each pin-hole is extremely small, long time exposures are essential. They cannot be satisfactorily reproduced; hence copies are not obtainable, and the negative image has to be rendered into a positive by reversal. Viewing should be with a mirror placed so that the proper left-right attitudes of the images can be obtained.

The nature of the process excludes it from practical usefulness, particularly for motion pictures, but it is an interesting thing with which to play, and can be experimented upon by anyone having the required facilities.

Single Lens Camera for Motion Picture Stereoscopy

If two strip stereo films are used, such things as titles can be made by exposing one image, for the required footage, then shifting the camera to expose the other, as is done in making "slide-board" still referred to earlier in this article.

A variation of the principle can be applied to obtain stereoscopic motion pictures, especially aerial shots. The

IN THE ILLUSTRATION on the right can be seen a drawing depicting an improved single film method with the images turned on their sides.

author has made such films using only *one* camera, and making only *one* negative. Two prints were made from these single negatives and projected in interlock on two machines. However, the prints were projected with one print having its frames displaced in relation to those of the other. The number of frames displaced is governed by the plane's elevation above the ground and above the nearest object, in scenes looking straight down. Frame displacement is also governed by the ground speed of the plane. A plane flying at 100 miles per hour will cover 144 feet a second, which means that six feet is covered in every second for a film speed of 24 frames a second. A full reel was made during flights over New York City, the camera pointing straight down. The plane was flown at 2500 feet, and slow-motion photography of 96 frames a second was used.

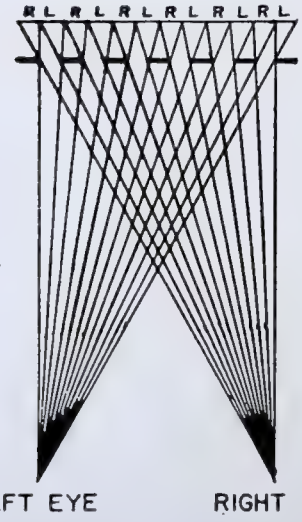


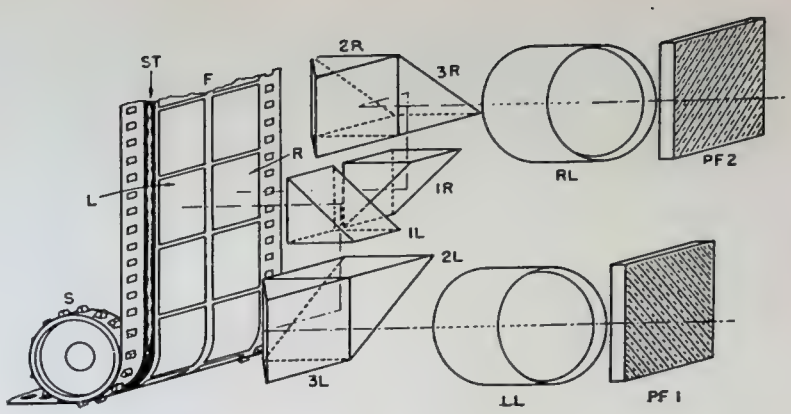
DIAGRAM of fundamental "grid system" for 3-D.

A film speed of 96 frames a second with a plane speed of 100 miles per hour gives one and one-half feet of advance along the course as registered by every frame. Using the equation $\frac{D \times d}{D - d} \div 50$, established the base of the interaxial that would result in the most startling visual effect with the least eyestrain. The farthest plane, D, the ground; the nearest plane, d, the top of the Empire State building; and the divisor, 50, indicated an interaxial base of 40 feet and this was achieved synthetically by a displacement of one film with the other of 30 frames. Actually, a displacement of 15 frames was finally selected to give the most satisfactory results.

Some stereo shots were made up in this way from stock footage taken from a plane flying over the Andes. This plane was flying about 180 miles an hour and the exposures were made at normal camera speed. The camera pointed horizontally toward the distant mountains.

The most startling of these shots was one that included "The Christ of the Andes." This heroic statue was in the middle distance and stood out in vivid relief against the mountain beyond.

There is one thing that creates quite a problem: any unsteadiness in the airplane's flight. This comes out in the projection as a constantly changing vertical and horizontal, and sometimes rotational displacement between the images. Such displacements existed in the films we made and had to be eliminated by optical duping methods involving a complexity of steps. But it was an interesting experiment and worth the trouble.



ILLUSTRATING AN arrangement that provides equal illumination for both images by using a partially transmitting mirror.

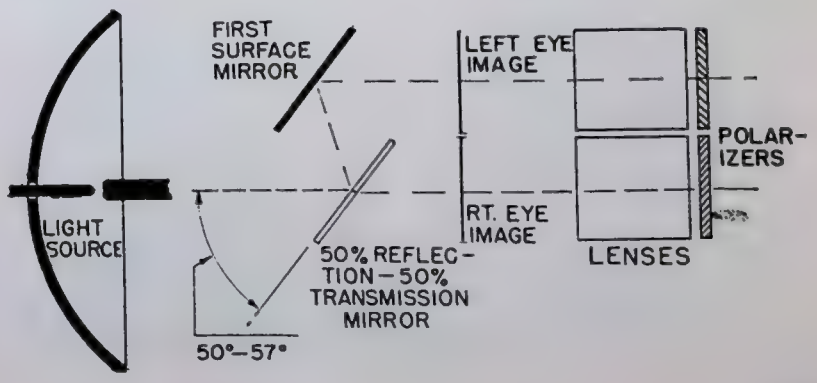
The Vectograph

Vectograph is the name applied to a clear plastic sheet on which an image may be rendered in terms of varying degrees of polarization, and viewed through a polarizing filter. The vectograph can accommodate an image on both its sides, and each image can be made to have its axis of polarization at right angles to that of the other. A stereo vectograph has the images of a stereo pair printed respectively on top and bottom of a vetograph sheet, and is viewed through polarizing spectacles with its respective windows having polarizing axes corresponding to those of the vectograph images. In slide form, the three-dimensional vetograph can be shown in a standard monocular projector without filters. As in other systems using polarized light, silver non-depolarizing screen and polarizing viewing spectacles are required.

During World War II the three-dimensional vectograph was used by the armed services for aerial reconnaissance and for training personnel in various skills. Other uses for this novel, paper-thin stereo picture will doubtless be found. Its picture quality is excellent and its ease of handling and processing are distinct advantages for any photographic process.

Three Dimensional Pictures and Television

Inevitably today, any new method of visual presentation both still and motion, can be telecast. As a matter of fact, an experimental stereo-television system has been at work in the Argonne National Laboratories. It permits an operator to keep a precise watch over the "hot" materials he is handling by remote control. Equipped with a pair of viewing spectacles and with eyes glued to a pair of television screen images which are transmitted by a binocular television camera, the operator does get a three-dimensional impression. But the problems involved in presenting satisfactory three-dimensional television to the public may be so very great that, by comparison, the problems of introducing *color* television have been small indeed. It is anybody's guess when stereo television will enjoy a widespread audience; if the history of stereo movies can provide a clue, the time is many years away.



Non-Stereo System

A system which has recently been described as producing a three-dimensional effect is the Cinerama development of Fred Waller. This method, requiring a multiplicity of cameras and projectors, presents a dramatic panoramic view of the scene photographed. But it is not three-dimensional at all, since it does not present a mutually exclusive image to each eye, the basic requirement on any three-dimensional system.

GENERAL DATA

For successful stereoscopic projection, it is important to know the size to which the picture is to be projected, for upon this knowledge depends comfortable viewing or maximum effectiveness, or both. Distortion of the subject for the spectator depends on his viewing distance and the angle at which he views the picture, but as in conventional movies, distortion due to the spectator's viewpoint is not serious unless he is very far off screen center or extremely close to or very far away from the screen.

Stereoscopic Terms

There are certain terms used in stereoscopy. These are:

The Stereoscopic Window

The "frame" behind which the scene apparently exists in space. In some cases, elements of the scene may extend in front of the window. These are special effects, and do not belong in a discussion of basic principles. The symbol is Sw.

Interocular (I_n)

The distance apart of the human eyes. We may select two and one-half inches as the interocular.

Interaxial (I)

The distance apart, or horizontal spacing of the stereo camera lenses, more truly the spacing apart of the central axes of the picture area.

Major Distance (D)

The distance from the lenses to the farthest object.

Minor Distance (d)

The distance from the lenses to the closest object. This is often the plane at which the stereoscopic window is planned to exist. In most cases, the nearest object will be a slight distance in back of the nearest plane.

Width of Image (w)

Refers to the width of that part of the negative which is to be used in the final prints. For standard 35mm theatrical film, this is .825 inch, for 16mm—four-tenth inch, for Stereo-Realist slides —.875 inch.

Focal Distance (F)

Refers to the distance from the principal node of the lens to the film, and does not refer to the equivalent focal length of the lens, although in most cases the stated focal length may be considered the focal distance. It is only for extreme close-ups that a differentiation must be made.

Parallax Index (P)

This refers to the parallactic difference between disparate members of the stereoscopic pair when projected. The parallactic difference is determined by the following factors:

1. The distance to the nearest plane in the subject.
2. The distance to the farthest plane in the subject.
3. The ratio between image width and focal distance of the lenses used.
4. The interaxial used.

Parallax index can be expressed by the equation

$$I = \frac{W}{PF} \times \frac{Dd}{D - d}$$

This equation was derived from the accompanying diagram, which represents the geometry of the system of taking stereoscopic photographs. Calculations are simplified if we consider one of the lenses collinear with the far and near points.

Points D and E represent the positions of the two lenses. The distance DE is the interaxial "I". Distance DA or EA is the lens to film distance, and its symbol is "F". F and G are points on the nearest and farthest planes in the subject. DF is "d" and DG is "D". BC is the horizontal shift on the image plane created by points F and G, and this distance has the symbol "S".

It will be seen that if the nearest point is superposed on the screen that the farthest point will be separated by an amount determined by the interaxial used in taking the picture. The maximum value of the distance of homologous points on the screen should not exceed two and one-half inches to avoid visual discomfort. To the observer, homologous points back of the stereoscopic window which are two and one-half inches apart should appear to be at virtual infinity. Some individuals can tolerate three and one-half to four inches, but it is best not to use "super infinity" if it can be avoided. Homologous points that superpose on the screen will seem to lie in the plane of the stereoscopic window.

The minimum distance at which observers can look at a picture comfortably when it has a two and one-half inches maximum separation of points is about six feet. In general, the maximum horizontal displacement should not exceed 1/30 of the viewing distance. This requirement exists because in viewing projected stereo pictures, the observer must "uncouple" the facilities of convergence and accommodation of the eyes.

In viewing, it is desirable that the parallax index be 24 or greater.

Parallax index P may be stated as

$$P = \frac{D_v}{I_n}$$

where D_v is the viewing distance and I_n is two and one-half inches.

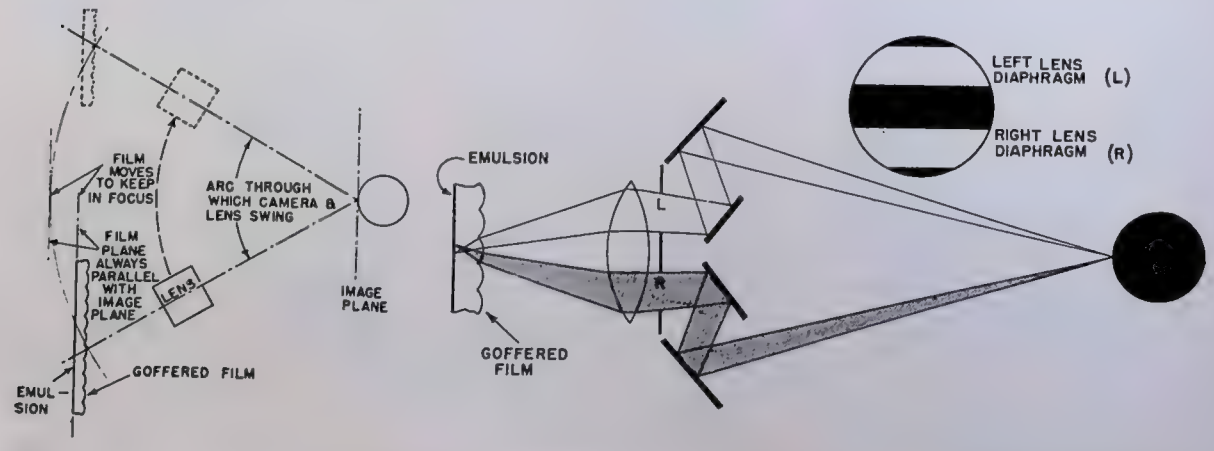
Thus where $D_v = 60$ inches, $P = 24$; where $D_v = 120$ inches, $P = 48$, etc.

General Rules

1. A general rule can be laid down for the photography and projection of stereoscopic views: *The projected view should have the same angular dimension for the viewer as the scene taken by the camera.* This is the ideal, but never attainable in practice except for just one person at the prescribed distance from the screen and viewing the screen along the projection axis.

2. The apparent depth of the stereoscopic view should be the same as the real depth of the scene. To attain the right apparent depth, the correct interaxial must be employed. The required interaxial varies over a wide range and for projected views must be given much more serious consideration than for hand-held views. If we plan to project on an 18 foot wide screen, we must not use as wide an interaxial as we can use on a six foot screen, because if we do, and

DIAGRAM (LEFT) OF one type of camera for making lenticular stereograms. (RIGHT) Diagram of one method employing the beam splitter principle with addition of slit diaphragms.



employ convergence to establish the stereoscopic window, we are either going to have homologous points at infinity spread so far apart that the eyes have to diverge to accommodate for them, or we are going to have to adjust the projected stereoscopic window to a plane far in front of the screen.

It is not difficult to arrive at the correct interocular if we use the simple equation

$$\text{I interaxial)} = \frac{w\ e\ d}{s\ f}$$

where w = width of the image on the film,

e = normal human interocular (2½ inches)

d = distance from the camera lens to a plane just in front of the nearest object (plane of convergence),

s = width of the projected picture,

f = focal length of the camera lenses.

The establishment of the stereoscopic window is not of great importance in hand-held views, but it must be employed in projection, and properly employed. If it is not, there will be the marginal disturbances that have been mentioned before, and they are hard to look at. There is nothing in natural vision to correspond to them, and since the ideal stereoscopic view is one that should afford *complete visual comfort*, the appropriate window frame should be calculated in every scene. If it is not, people may have trouble looking at your stereoscopic "masterpieces."

Very striking stunt shots can be made stereoscopically. For instance, objects can be made seemingly to float in space between screen and observer provided the object is well inside the margins of the picture areas. Objects should not be photographed so as to appear so near to the person observing the projected images that he will have trouble fusing them. Consideration must be given to the accommodation limits of the eyes; that is, for convergence accommodation limits.

Theoretical accommodation limits of the human eye in convergence are based on normal close reading distance of 15 inches. (Note: This formula does not take into consideration what physiological effect, if any, is introduced when the accommodation muscles are used without correlative focusing.) The angle of convergence of the eyes (interpupilary distance of 2.625 is used) at a distance of 16½ inches is slightly more than nine degrees. The displacement of the disparate images on the screen are given in inches and decimals of an inch.

Formula: Observer distance from screen less 15 inches multiplied by the tangent of half the angle subtended by the eyes gives the maximum separation on the screen at a given distance. To obtain the required separation of images on the film, divide the projection aperture width by the screen width and multiply by the separation of the projected images. (tan 4 degrees 30 feet by distance from the screen)

Observer Distance from Screen	*Maximum Separation on Screen in Inches*
4′	2.60
6′	4.48
8′	6.37
10′	8.26
12′	10.15
16′	13.93
20′	17.71
24′	21.48
30′	27.15

An Analysis of Light Polarization

Since the phenomenon of light polarization is so closely related to the practice of stereoscopy, it is of benefit briefly to review it.

Let us imagine we are looking head-on at a beam of light and that we can conceive it as a bundle of rapidly vibrating arrows pointing outward in an infinite number of directions. A polarizing filter can cause all vibrations to take place parallel to each other.

The polarizer transmits not only the vibrations which are originally parallel to the polarization axis, but all the components of all the infinite number of vibrations at angles to the axis. The amplitude of any vibration along the axis is equal to $A_i \cos$.
where . is the angle between the direction of vibration and the axis.

Since the energy of a vibration is proportional to the square of its amplitude, the relative intensity $I_.$ of light transmitted by two polarizers with axes at any angle from 0 degree to 90 degrees is given by $I_. = I_. \cos^2.$
when the angle between the polarizing axis is . and $I_.$ is the relative intensity of the transmitted light when the angle . is zero.

A graphical representation of this, with $I_.$ arbitrarily equal to unity, shows the relative intensity of the light through two polarizers with axes at various angles to each other. This curve is true only for perfect polarizers which would have a transmission of 50 per cent. Actually, the best polarizers have a transmission of only about 40 per cent.

CONCLUSION

The fundamental requirement of any stereoscopic system is that each eye sees only that member of the stereoscopic pair intended for it and excludes the image belonging to the other eye. The disparate images of the stereoscopic pair must be distributed to the eyes of the audience in a selective manner. To quote from Dr. H. E. Ives:

There are only two places where the distribution of images to eyes can be done; these are at the screen and at the eyes. The number of images at the screen can be reduced to two, if the number of viewing instruments is equal to the number of spectators. The number of viewing instruments can be reduced to zero if the number of images at the screen is made infinite. Any gain in simplification at one point is offset by increase in the complexity or expense at the other.

THE AUTHOR, JOHN A. NORLING, president of Loucks and Norling Studios, and the chairman of the Stereoscopic committee of the Society of Motion Picture and Television Engineers has pioneered in 3-D.

3-D Projection

An Up-To-Date Report by the SMPTE and MPRC on Proper Projection Techniques and Equipment Required for 3-D

Technical problems of converting the motion picture industry to 3-D are many and varied. There are many new things which will have to be learned, and some which will have to be forgotten. In order to help supply some of the answers, the Society of Motion Picture and Television Engineers, working with the Motion Picture Research Council, has been attempting to develop standards and proper procedures to be used for the projection of three dimensional motion pictures.

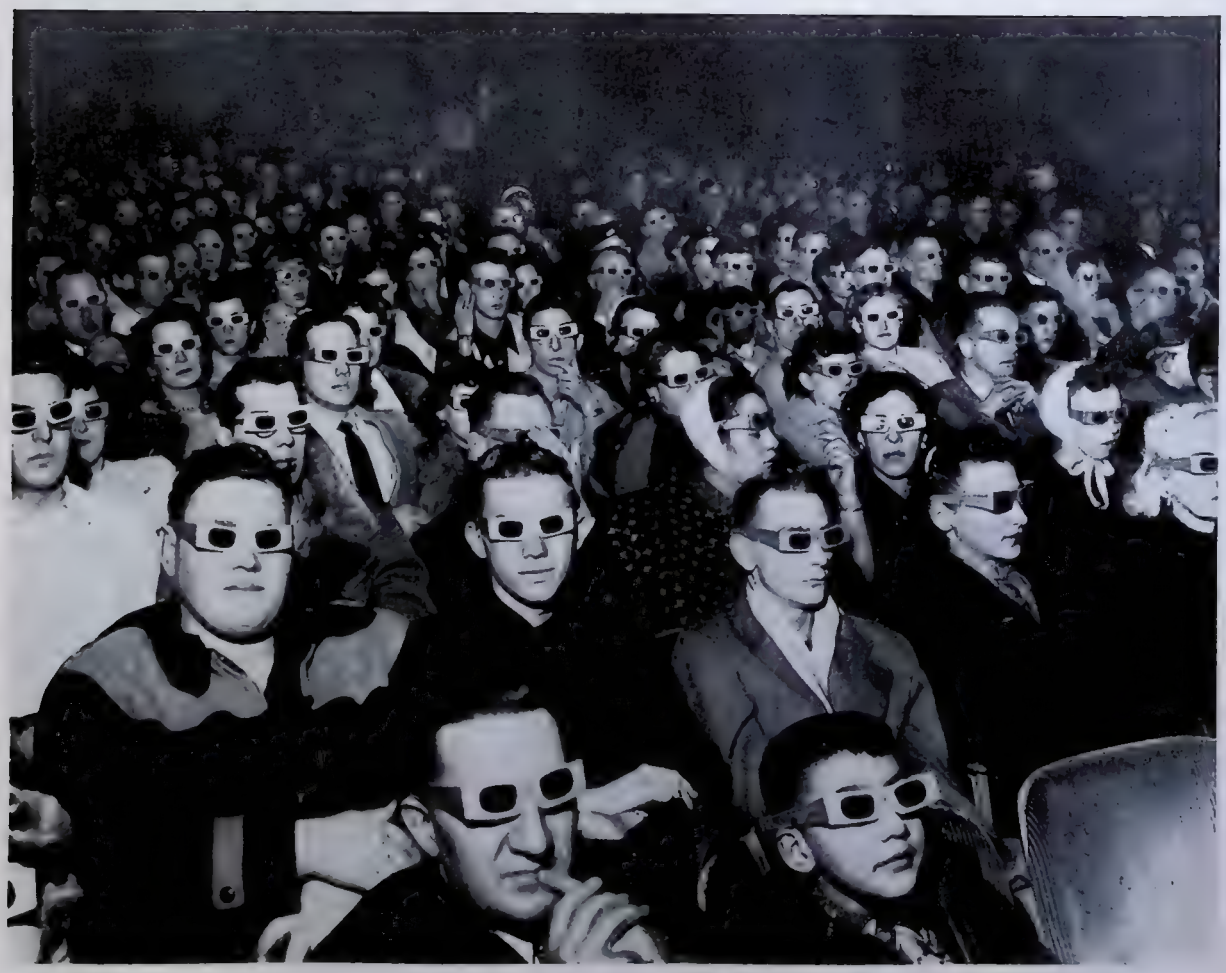
As a result of their work, it has been possible to give some semblance of order to the confused condition that prevailed when 3-D first made its presence felt. Since the entire situation is still fluid it is possible that some of the things in this report will not be true six months or a year from now. However, on the basis of the 3-D films now in release, or for those to be released in the foreseeable future, the information found here will be an accurate guide to equipment requirements and proper projection procedures.

Magazines, Reels and Spindles

Size of projection reels and magazines for third dimension features is the initial standardization question for theatre owners. Current 3-D pictures come on two separate films that project together from two machines. For the majority of houses equipped as they are with two or at most three projectors this rules out the "changeover." The amount of 3-D film that can be run between stops-to-reload is limited to the capacity of a single reel. Supposedly, exhibitors want

BRIEF: *The average exhibitor . . . as well as the man in the projection booth . . . is today a bit confused about just exactly what is involved in installing and projecting three-dimensional films . . . Just what equipment will I need . . . what will that equipment do . . . and how will I use this equipment . . . are a few of the questions uppermost in the minds of theatremen.*

This article . . . prepared by the finest engineers in the motion picture industry . . . should do much to clear away a great deal of the doubt and confusion . . . There are detailed accounts of the equipment needs from spindles to screens . . . There is also a valuable section on how to properly synchronize the projectors . . . and many other important bits of knowledge and information.



THIS VIEW OF THE AUDIENCE at the State in Minneapolis is by now a well known scene.

the fewest intermissions possible but there are these practical limitations —

Footage lengths in which features are edited in the studio.

The amount of film on a single reel that can be handled in the exchanges (processing laboratories probably won't care one way or the other because they usually work in 1000 foot lengths anyhow).

The sizes of film packages that can be handled by the film carriers.

The maximum magazine size that present-day projectors can accommodate.

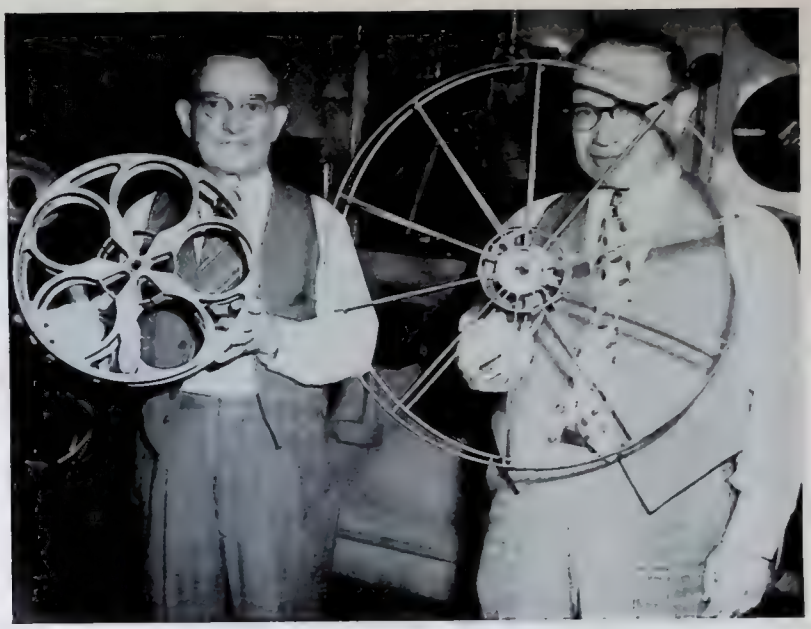
Here's one long-run solution — assuming two hours as the length of an imaginary average feature-plus-short, 10,800 feet or nearly two miles of film will be used and assuming further, although somewhat ideally, that a stop for rethreading can be made at about the middle of this length, the two-hour program could be mounted on two reels of 24-inch diameter and 25-inch magazines would be needed. The 24-inch reel with a five-inch hub holds roughly 5000 feet of color or 5500 feet of black and white, so two reels would just about make the grade. These reels and magazines can be used with most modern projectors and even work with some Universal-base installations it was reported. This combination has been recommended by the Society to permit maximum running time between breaks for rethreading.

An even larger combination to take a 6000-foot length of film has been suggested on the basis of a survey of the length of feature films made over a considerable period of time by one major studio which has not yet been studied in detail by the engineers.

The reasoning in all this is—converting the entire industry is a long pull proposition and the more capacity permitted in the make-up of pictures for projection the better.

That, however, is only one side of the reel story because 24-inch reels and 25-inch magazines are not yet in full production. Reels 23-inch diameter and 24-inch magazines are being turned out at a furious rate for theatres booking the first 3-D pictures. To support their position, those who favor the smaller combination cite the release length of "Bwana Devil" which is 7600 feet and "House of Wax" reported to be 8200 feet both released on 23-inch reels, as further argument for 23-24. They may be faced with two intermissions when feature pictures of greater length are produced.

Spindles are another problem. The 5/16-inch ones now in use are a holdover from the thousand foot reel days. Since exhibitors have been plagued with chronic spindle trouble ever since adoption of 2000-foot reels, chances are that some larger size would be welcomed. The long-range change to reels weighing in the neighborhood of 50 pounds, that are likely to overload the small spindles, has brought out several suggestions for new spindle sizes ranging from one-half-inch to two inches in diameter. There is a report that 5/16-inch will actually do if suitable steel is used but others believe something larger is desirable. When placing a loaded 50-pound reel in the top magazine it is difficult to aim through the small hole and even worse when the spindle is above line-of-sight. It just won't be placed gently in position.



A STRIKING CONTRAST OF 3-D and conventional reels is apparent in the scene above. The gentleman on the right holds the 24-inch reel required for 3-D presentations. (Photo courtesy Stanley Warner Theatres)

Flange weave from bent reels or spindles is a serious cause of film damage and is of course worse with large reels than with 2000-foot ones. But if the larger-diameter projection reels are well made, weave can be almost reduced to zero provided the reel bore and spindle are quite large. Adapters would permit new reels to work on existing machines while new models of projectors and magazines could take advantage of the larger spindle to enlarge the magazine bushings and perhaps do some redesign of take-up devices.

Most take-ups were designed for 2000-foot reels and never intended to perform such heavy-duty service, so must be watched closely during projection.

Right at the outset of 3-D projection there was some serious film damage in the lower magazine. It was the result of slow starting take-ups that got going late and snapped the film coming off the hold-back sprocket in the sound head. The cause was large diameter and heavy reel flanges.

Two solutions by redesign of reels have been proposed: Free-wheeling flanges so that only the hub would turn during the first few revolutions; Increasing the hub diameter of conventional types of reels from the present five inches to six or seven inches so the first wrap would use 18 to 22 inches of film and a smaller part of the first revolution would collect the slack with reduced shock. The six-inch hub reduces reel capacity by about 250 feet of film.

Modifications of the take-up mechanism have also been suggested: The use of separate constant-torque take-up motors; Improved friction-drive systems with quick-starting constant-torque characteristics.

FILTERS AND VIEWERS

All of the 3-D systems currently in vogue require that a polarizing filter be placed between each projector and the screen and another one be placed between the screen and each eye of the patron.

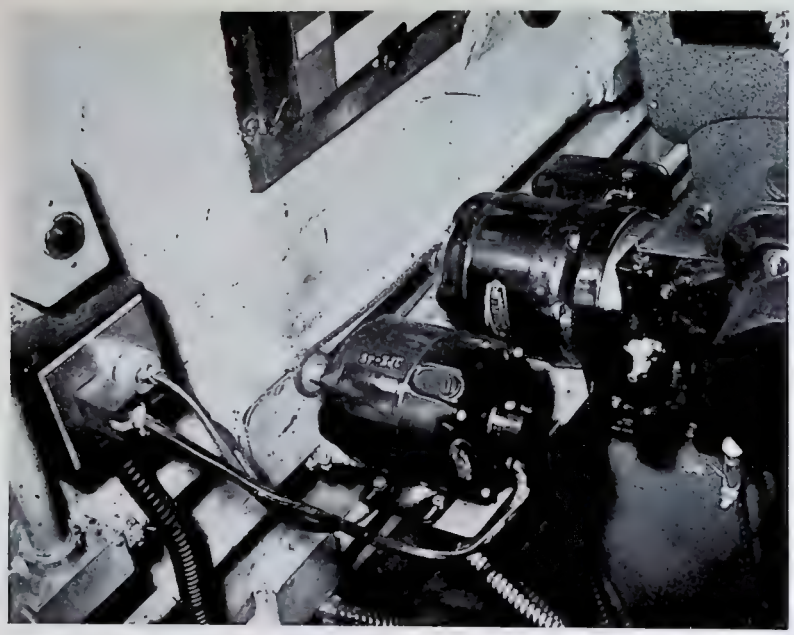
Exhibitors have asked if there is a non-fading type of projector filter and if fan cooling is necessary. The polarizing material like most photographic filters becomes less stable with increasing temperature and to prolong its useful life, temperature should be kept down — cooling is necessary.

Filter development is continuing and as specific requirements for high-brightness and high temperature service become more clearly defined, there will be further improvements in stability and optical quality giving longer life to the filter and better definition to the picture.

There have been a number of complaints about poor picture definition traced to the use of polarizing filters made expressly for experimental laboratory use. These were never intended for heavy duty theatre service. A safe rule to follow is—do not improvise—use only filters made specifically for 3-D projection.

If cooling has been inadequate or filters have reached the end of their useful life, they will fail to polarize the projection light. This is easy to check. From down in the house merely look back at the booth through one half of a viewer rotating the viewer for maximum light cut-off. If the projection filter is in good condition the light coming from the booth should go to a uniform dark blue. If, however, the light is blotchy, then the projector filter is no longer polarizing and should be replaced.

The projection filter has an opening about five by seven inches. It should be held always in a vertical position and



THIS IS A CLOSEUP OF THE SELSYN MOTORS which were attached to each machine at Stanley-Warner's Aldine, Philadelphia, to synchronize their projectors for showing three-dimensional pictures.

should be kept as far from the end of the projection lens as possible. The farther away, the longer the filter will last and the better will be picture detail. However, it should not be stuck against the port glass because the glass may become heated and depolarize the light.

Cleanliness is important. Finger prints and oil should be kept off the filter but the filter can be cleaned easily with carbon-tetrachloride and kleenex (use with ample ventilation).

One of the most needed developments is a polarizing projection filter mounted in B-glass and supplied with a permanent holding fixture so that the filter can be easily slipped out or swung away when not needed and so that it can be readily cleaned. (Some are already being marketed. ED.)

Viewers

For projectionists, theatre managers and for directors of production and directors of photography in studios the paper framed viewing glasses may be inconvenient. These professionals could well acquire permanent 3-D spectacles. For those who wear corrective lenses most of the time anyhow it would be best to have their corrective lenses especially made with the polarizing material inserted as a sandwich. Manufacturers of corrective lenses should be able to do this job with no difficulty and should be instructed to properly orient the viewing filter material for 3-D.

SCREENS

Projection screens for 3-D must be metallic-surfaced to avoid depolarizing the filtered light coming from the projector. Brand new 3-D screens should give ideal results provided the coating does not contain minute particles of non-metallic filler material between the tiny bits of metal that make up the surface.

Refinishing on the spot with aluminum paint may be satisfactory, provided the paint is made of pure aluminum and is free from non-metallic filler, provided further that the painter uses just exactly the right technique. Plugged-up perforations for instance will have a disastrous effect on the sound and seams are apt to appear as distracting dark lines. Light distribution may become so directional that vision from the sides is extremely poor.

For years most screen development was directed toward making the surface absolutely flat and dead white, and as perfectly diffusing as possible so the screen would not impose unwanted directional reflections or unwanted color upon the picture. With the introduction of direct projection systems of theatre television and their limited picture brightness much effort went into developing screens that put less light on the side walls and ceiling and more down where the audience could see it. From this work screen manufacturers got some good basic training in the control of screen light distribution.

There are all-purpose screens for both conventional 2-D and for 3-D but whether they will work as well with the wide pictures will depend not only on the directional characteristics of the surface but equally upon wide-screen curvature, if any. This question can be answered only after detailed requirements for the wide picture systems are clearly specified.

LENSES AND PROJECTION

Matching of the focal lengths of the two projection lenses is one detail that must be controlled for good 3-D results. If it is not, one eye will see a larger picture than the other. Motion picture technical people agree that the normal focal length variations of around two per cent between lenses that carry the identical marked numbers on the barrel is too much. For every two per cent difference of actual focal length, there will be a two per cent difference in the measured width of the picture at the screen. For example, if one lens projects a 25-foot wide picture another lens of two per cent shorter focal length will project a 25½-foot picture.

If the difference in size affected only the width of the picture, it would not be very serious because your eyes can adjust to reasonable sidewise errors without noticeable difficulty but they cannot adjust to up-and-down errors in size or alignment without terrific discomfort so lenses must be matched some say to one-quarter of one per cent, others say within one per cent is satisfactory.

There is so far no exact final limit but extensive studies of this particular problem have been in process in an eastern college for quite some time and some authoritative information should soon be available.

PROJECTOR ALIGNMENT

Projectors that run interlocked for 3-D must be carefully aligned so both pictures will just fill the screen. Horizontal lines in both pictures will need to be level with each other and parallel with the bottom masking. This means, of course, that framing adjustments of both films must be exactly alike otherwise the patron, wearing his special viewing glasses, will have to look slightly higher with one eye than with the other. To compensate for framing errors in that way is extremely difficult for one's seeing apparatus, and most discomforting, although the act of accommodating is not a conscious one.

The Motion Picture Research Council has developed a 35mm Test Film for aligning the projectors to show all 3-D pictures now available or about to go into release. Prints of this test film can be obtained from either the Society of Motion Picture and Television Engineers or directly from the Motion Picture Research Council in Hollywood. Actual shifting or shimming-up of the machines to make the projected images coincide, is not difficult, but use of the test films is a little tricky until you get on to it. From the way 3-D pictures are photographed and printed, the left picture may have the emulsion facing one way and the right picture facing the other. In any case the test film is made to work equally well in either direction. It should be run rightside up or upside down so that its emulsion position will match the emulsion position of the particular 3-D film to be run next on that machine. The following instructions prepared by engineers at the Research Council and packed with the films, covers these details quite simply.

Instructions for Use of Target Alignment Loops

This lineup should be made without polarizing filters in the projector light beams.

1. **Two loops of the target alignment film are provided, each 10 feet in length.**

2. Interlock the projectors with shutters and motors in absolute sync.
3. Center the framing control of both machines.
4. Thread up a loop in each machine in frame and in sync with the emulsion position as indicated in Note 1.
5. Start the projectors in interlock, open the dowser in the right machine (as you face the screen) and center the chart on the screen by means of the framing control. If possible, reduce light while running the loops in order to minimize film warping, which in turn affects focus.
6. Center the chart in the other direction by shifting the projector.
7. Level this projector so that the wide horizontal line on the chart is parallel to the bottom masking of the screen.
8. This right projector should then be well locked off, as subsequent adjustments are made with the left projector.
9. Open the left dowser and superimose the two X's at the center of the chart by adjusting the left projector with the framing control and by shifting the projector.
10. The vertical center lines should be superimposed. If they are not superimposed, level the left projector.
11. There may be some loss of matching in the corners of the screen due to keystone. This cannot be corrected.

NOTE 1:

Because of differences in photographic techniques, either the left print or the right print or both may be projected emulsion-toward-the-light or emulsion-toward-the-lens. In any case the sound track will be on the proper edge of the film. Therefore, to be certain of proper alignment the test loops should be threaded with the emulsion in the same position as it is on the prints to be projected.

Where a loop is reversed the target will be upside down. This is satisfactory as the loops can be used with both targets upright, with both upside down, or with one upright and one upside down, and give a proper alignment.

This procedure is advisable because if the optical axis of either lens is not correctly centered, reversing the emulsion position and refocusing will cause a horizontal shift of the picture on the screen.

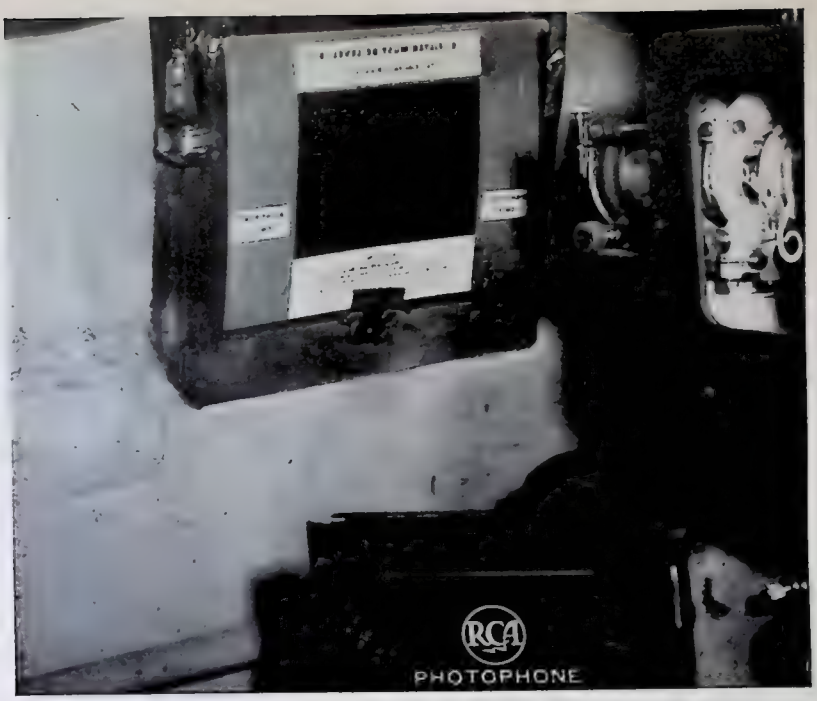
Do not consider this lineup as a final focus check. Always focus for 3-D projection through the filters and refocus without filters for regular pictures.

The alignment of the projectors should be checked frequently as vibration may cause the projectors to get out of alignment. Always realign for a 3-D feature which does not have the same emulsion positions as the previous picture.

NEVER PROJECT WHITE LIGHT THROUGH POLARIZING FILTERS.

Additional Uses of the Target Alignment Loops

1. Crosshatching outside the chart area should not be visible on the screen.
2. The letter (A) will appear in each corner just inside the screen border when the picture is the proper size and is centered properly on the screen.



ABOVE IS A POLAROID FILTER which must be placed over the proper port and installed so that light passes through the center. Filters must be vertical and as far as possible from projector lens.

3. The small white squares will indicate travel ghost if present.
4. The black steps on the four sides of the picture indicate jump and weave, one per cent for each step.
5. The small lines in the big white cross provide an over-all check of the center-to-side focus.

ARC LAMPS

Projection light requirements for 3-D present a very practical problem to the exhibitor and projectionist. Besides having to run both lamps all the time and to run them with equal light output, there needs to be substantially more light from each lamp than with 2-D. That is because the polarizing filter at the projector rejects almost half of the light falling on it and the viewing filter rejects about half of what is left.

3-D screens will help. Because of their design more light will be directed toward the seats and less toward the side walls and ceiling. Even so, to compensate completely giving each eye a picture as bright as with 2-D using a release print of normal density, the light coming through the projection lens would need to be increased by two and a half times. That is a big order.

Producers and their laboratories are well aware of this and will likely go as far as is safe in adjusting print density or color balance or both to help relieve the situation. For practical results if the light output from each projection machine is doubled results should be quite satisfactory.

Picture brightness should be equal from both machines. If it is not, the stereo effect will be decreased as the brightness difference becomes worse. No one has named an exact figure as a tolerable limit but estimates range from 10 per cent to 20 per cent. Variations of that amount—one or two foot lamberts on a screen that averages around 10 foot lamberts of brightness—are to be expected from minute to minute in normal good operation. These variations are caused by rotation of the carbons, fluctuations in current drawn at the gap, air drafts through the lamp house and consequent temperature changes. Since it just isn't practical to control everything all at once, we can't expect perfection. If lamps are clean and in line, if carbons are kept always in trim and if lenses and mirrors are cleaned regularly, brightness difference troubles aren't likely to be serious.

SYNCHRONIZATION

The success of 3-D depends upon good projection and good projection demands exact synchronization between the two interlocked projectors. Not only must the proper pair of left and right eye images appear on the screen at the same time but also the shutters must be exactly synchronized.

If the two pictures are out of sync by one frame, the 3-D illusion will be seriously affected and may be destroyed entirely on scenes with fast action. The film laboratories and exchanges are going to great lengths to insure that paired prints are properly synchronized throughout, damaged portions of one of the films will be replaced with black frame-line leader and footage numbers will be checked to determine whether any film has been lost by breaks in the theatre.

Shutter synchronization can be made exact with either Selsyn interlock motor

drive systems or mechanical couplings. It must be checked with the two machines in interlock while in operation. Mechanical coupling systems, unless they have no slack at all, may appear to be exactly synchronized when at rest but when the two projectors are in motion, the slack can be taken up by the projector having the greatest load and if the amount of slack taken up is large then the two shutters may drift slightly out of sync. Mechanical couplings that are springy may tend to "hunt," that is, to drift slowly back and forth, making the shutters slightly out of sync in one direction and then slightly out of sync in the other. The service company representative maintaining theatre equipment can check this condition without difficulty. There are reports of home-made "stiff" coupling systems that work perfectly well and there is no reason why they should not. Some of the coupling problems call for good mechanical design.

The Motion Picture Research Council in its Informational Bulletin Number 4 recommends the use of Selsyn interlocks. Their report is quoted in full:

"Interlocking is required between two projectors when showing 3-D pictures. Where stereophonic sound equipment is installed for either 2-D or 3-D, the separate sound reproducer must be interlocked to the projectors.

The preferred system is an electrical interlock, using 2-pole, 1440 rpm, Selsyn motors, having a peak torque rating of at least 1 lb-ft. The Selsyn motor is to be coupled to the projector motor, the preferred coupling being a timing belt and sprockets. The sprocket ratio must be exactly the same ratio as exists between the motor and shutter. For most machines this ratio is 49 to 40, which is the ratio of the motor speed (1764 rpm on 60 cycle power) to the shutter speed (1440 rpm). For some machines with 2-pole motors, this ratio is 3528 to 1440, which equals 49 to 20. The coupling ratio is correct when one revolution of the Selsyn produces exactly one revolution of the shutter.

The 2-pole Selsyn, coupled 40/49 to the projector motor to result in a one to one relationship between shutter and Selsyn, is a no-error interlock system since it precludes all errors in lineup, provided the Selsyn and shutter are coupled in line on the initial installation. The projectionist simply turns the hand wheel on each Selsyn to an index mark which automatically indexes the shutters.

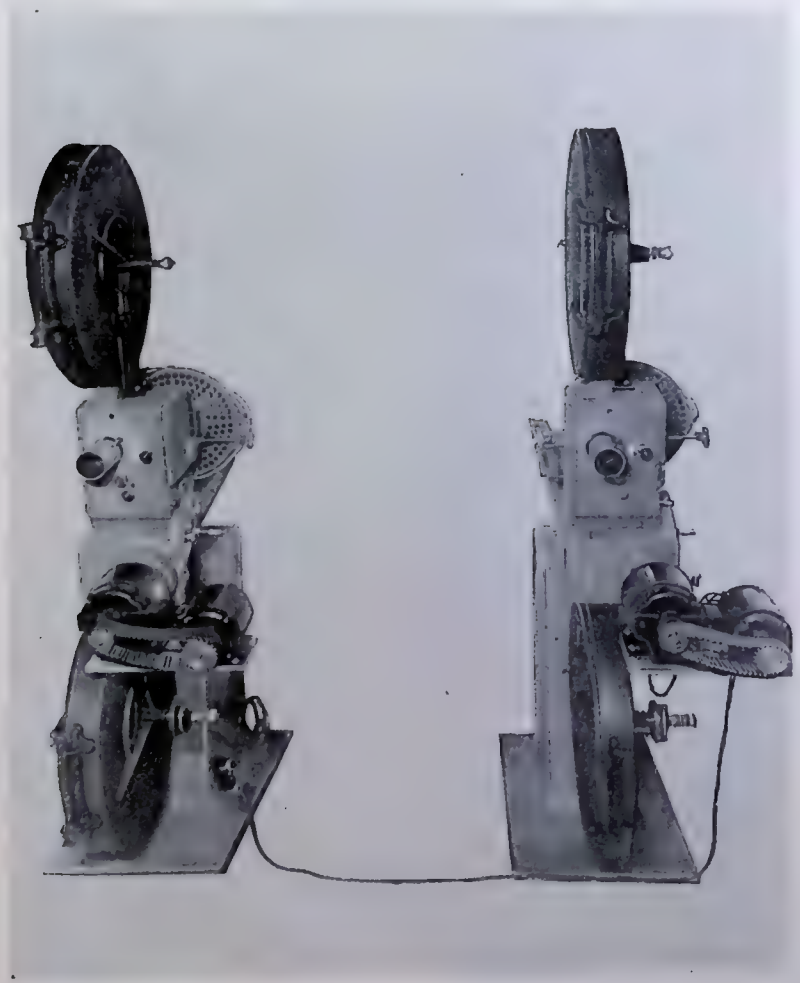
It is recommended that a timing belt having a short pitch (.242) be used to avoid large sprockets. An acceptable alternate to the timing belt is the 3/16-inch pitch silent chain, but because of lubrication requirements this is a second choice.

An acceptable alternate to the 2-pole 1440 Selsyn is a 4-pole 720 rpm Selsyn, coupled to the motor on a 20/49 ratio, to produce two revolutions of the shutter for one revolution of the Selsyn. The 720 rpm 4-pole Selsyn should have a minimum peak torque of 2 lb-ft. The 4-pole Selsyn will line up and interlock at either of two points 180 degrees apart, but in both positions shutters are properly indexed.

Selsyn speeds other than 1440 and 720 are not recommended."

(Since the time this report was issued a number of improved mechanical interlocks have been developed. ED.)

THE BALLANTYNE MECHANICAL INTERLOCK is shown below. The success of 3-D projection begins at this point because it is necessary to have exact synchronization between the two interlocking projectors.



FILM IDENTIFICATION

Recommendations for procedures to be followed in film laboratories and exchanges must tie in with studio production methods and with the conversion systems used in all 3-D theatres. This tie-in is provided by the Society and by the Research Council whose Informational Bulletin Number 3 contains a number of details essential to proper preparation of release prints. The following portions quoted from that Bulletin have been selected because they will be of general trade interest.

The following recommendations pertain to stereoscopic 3-D pictures; that is, where two prints are simultaneously projected in synchronism, the one a right-eye print, the other a left-eye print. These recommendations are based on the use of a projection reel 24 inches in diameter which will hold approximately 5000 feet of color positive film or approximately 5500 feet of black-and-white. Since both projectors run simultaneously, change-overs are no longer possible (with less than four projectors in the booth), and intermissions are necessary for changing reels and retrimming carbons.

Where the booth cannot possibly accommodate magazines for the 24-inch reel, a projection reel of 20 inches in diameter, which will hold approximately 3500 feet of color positive, is recommended. This size reel is definitely not preferred, but where 24-inch reels cannot be used the reel diameter should not be less than 20 inches.

Previous recommendations on the 2000 feet release print make-up specified that the picture action should start and finish on fades at the beginning and end of each reel for smooth change-overs. This recommendation still holds, but in addition, particular attention should be paid to the intermission break which should finish and start on a fade.

The length of the picture section in part one and part two of the 3-D feature is not specified, but the first reel should be as full as possible so that regular 2-D short subject material can be put on the last part of the second reel in order that an intermission be-

tween the feature and the short subjects is not necessary. Only sufficient regular material need be added to the second reel to allow the projectionist to re-thread and re-trim the second machine (which was taken out of interlock at the end of the 3-D feature). Where 3-D short subject material is available, it can of course be put on the beginning of part one or the end of part two, if the necessary footage space is available on the reel.

As mentioned before, it is probable that some 20-inch reels will be used. This would mean two intermissions in the show instead of one. In making up studio reels, it may be that consideration should be given to this possibility.

Stereoscopic release negatives will be coded in sync with the letter L in each footage number of the left print and with the letter K in each footage number of the right print. The letter K is being used because very few film numbering machines have a letter R.

All coding machines have six columns: some with two letters followed by four numerals; others with one numeral, one letter and four numerals.

In order that the same method of coding can be used with both types of coding machines, those machines which have a letter on the first column will have the letter K filed to make the numeral 1. On both types of machines the letter E in the second column will be filed to make the letter L. Every code number on the left print will carry the letter L in the second column and every code number of the right print will carry the letter K in the second column.

THIS IS A LOOK-IN at the projection booth of the Mastbaum in Philadelphia. Note 25-inch magazine.

The numbers 0000-0999 will not be used. Studio 3-D reel one, which makes up exchange reels 1L and 1R, will be identified as REEL 1L and REEL 1R in the identification leader, and this left and right reel will also be indicated in the footage numbers by the use of the series L1000 and K1000. Studio 3-D reel two will be identified as REEL 2L and REEL 2R in the leader and by the use of the L2000 and K2000 series in the footage numbers. Reels 10 and above will be indicated by REEL 10L and REEL 10R in the leader and by the 10,000 series in the footage numbers.

Care should be taken to make code numbers as legible as possible on the print, and the number should be centered on the frame of picture to which it applies rather than centered on a frame line.

TO SHOW THE NUMBERING METHOD to be used for all 3-D features the Council has provided the example of code numbers shown in the chart below used in making up a mythical thirteen reel feature. This is recommended on stereoscopic 3-D pictures only where two prints are projected simultaneously in synchronization, the one a left eye print, the other a right eye print and used on projection reels of 24-inch diameter. Care should be taken to make code numbers as legible as possible, and the number centered on the frame.

Assumed Reel Length	Identification Leader Marking	Coding Left Negative	Identification Leader Marking	Coding Right Negative
800'	Reel 1 L	L1000 - L1800	Reel 1 R	K1000 - K1800
860'	Reel 2 L	L2000 - L2860	Reel 2 R	K2000 - K2860
900'	Reel 3 L	L3000 - L3900	Reel 3 R	K3000 - K3900
999'	Reel 4 L	L4000 - L4999	Reel 4 R	K4000 - K4999
750'	Reel 5 L	L5000 - L5750	Reel 5 R	K5000 - K5750
850'	Reel 6 L	L6000 - L6850	Reel 6 R	K6000 - K6850
950'	Reel 7 L	L7000 - L7950	Reel 7 R	K7000 - K7950
880'	Reel 8 L	L8000 - L8880	Reel 8 R	K8000 - K8880
910'	Reel 9 L	L9000 - L9910	Reel 9 R	K9000 - K9910
930'	Reel 10 L	1L0000 - 1L0930	Reel 10 R	1K0000 - 1K0930
800'	Reel 11 L	1L1000 - 1L1800	Reel 11 R	1K1000 - 1K1800
700'	Reel 12 L	1L2000 - 1L2700	Reel 12 R	1K2000 - 1K2700
600'	Reel 13 L	1L3000 - 1L3600	Reel 13 R	1K3000 - 1K3600

Sound Keeps Pace

3-D and Wide Screen Advances, Have Been Matched by Development of Stereophonic Sound Techniques

INTRODUCTION

The post-war years caused much concern to everyone in the motion picture industry, due to falling grosses. The tried and previously proven exploitation techniques failed to solve the Boxoffice dilemma. Late in 1952, however, something happened. Two groups of industryites with faith in the future presented something new, new in its manner of presentation but old as far as its technical features were concerned. Cinerama and 3-D hit the industry like a bombshell. In spite of the reluctance of major producers and exhibitors to lend support, the new medium immediately caught the public's fancy and phenomenal grosses were reported. Naturally the first indications of success led to a wild scramble throughout the industry. In the short space of three months some 42 different systems of three dimension projection, wide screen presentation, stereophonic sound, Cinerama, Natural Vision, CinemaScope, WarnerPhonic, to mention a few, appeared. In spite of the confusion, a new approach in film making is in the offing. It will be an era when new concepts will be presented which will benefit the industry in the long run.

By E. O. Wilschke
Operating Manager, Altec Service Corporation

Theatre businessmen became worried, and not without cause, at the welter of confusion arising from reports that the industry could not agree on a standard production technique for the new film processes. The confusion in part has been caused by the mad rush for technical equipment. Exhibitors have attempted to capitalize on the commercial technique, playing on the public's curiosity without giving the new medium sufficient time for experimentation and perfection.

STEREOPHONIC SOUND

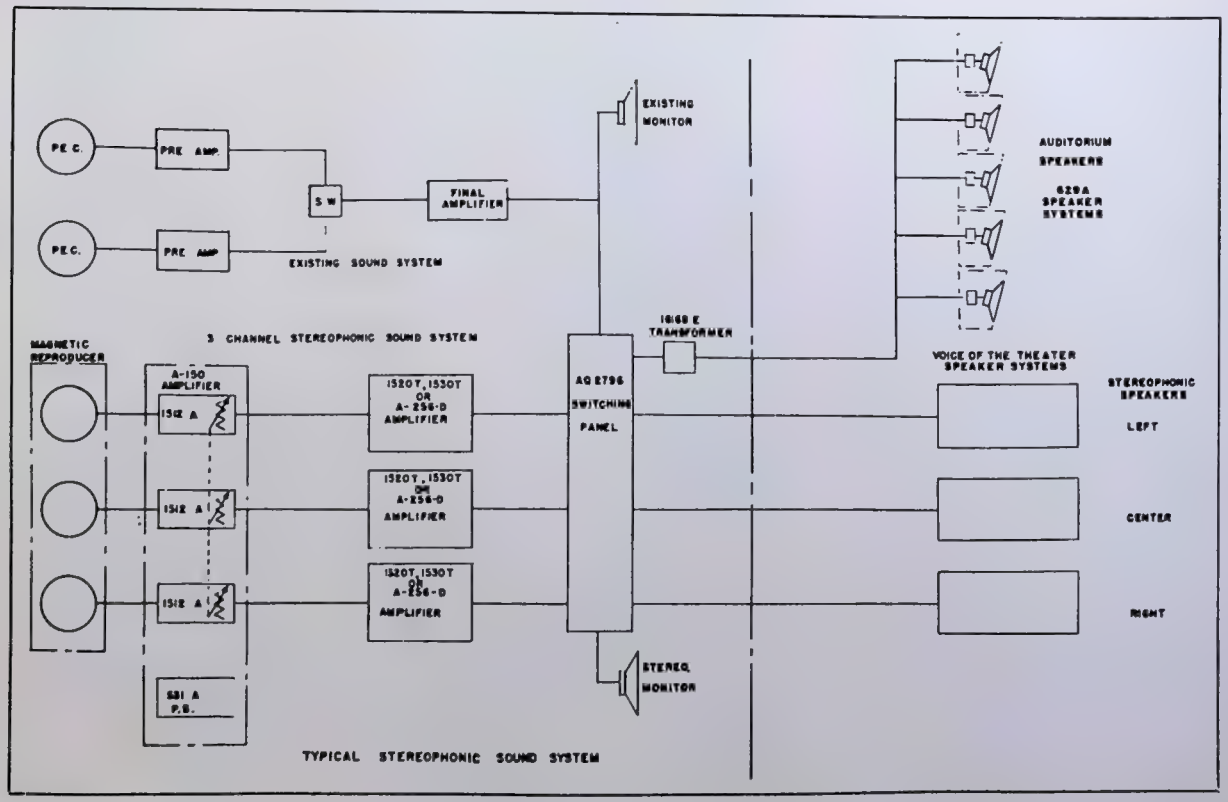
One thing is certain, however, and seems to be an acknowledged fact on the part of all industry people. Regardless of whether the picture presentation be 3-D with glasses, CinemaScope without glasses, wide screen with 1:1.85 ratio or wide screen with some other ratio, stereophonic sound will be a part of the ultimate system.

Stereophonic sound produces a realism of naturalness far exceeding any illusion

BRIEF: *One of the first things that became apparent with the sudden acceptance of three-dimensional and wide screen projection techniques . . . was that sound would also have to be given greater depth and reality in order to make the illusion more perfect . . . Although stereophonic sound has been around for a number of years . . . it is only now coming into widespread use.*

This article attempts to give a clear definition of what multiple channel sound systems are . . . what they can and can not do . . . and what equipment problems are involved . . . The approach taken by the author is one which aims to give the average exhibitor a better understanding of this latest advance in motion picture presentation . . . without getting too involved in excess technical data . . . Any theatreman who is wondering just what stereophonic sound is all about . . . will find this article well worth the reading.

5. TYPICAL STEREOPHONIC SOUND SYSTEM is graphically illustrated in the simplified diagram. Installation may vary a bit in different theatres.



created visually. Stereophonic sound properly recorded and properly reproduced creates an acoustic illusion of sound placement, depth and movement. It is a known fact that people are able to locate objects in the dark merely by the sounds emanating from such objects. This fact is further demonstrated by the ability of sightless people to recognize and locate objects merely by their sounds.

History

The initial technical investigation which finally resulted in the creation of stereophonic sound was conducted by Dr. Harvey Fletcher of the Bell Telephone Laboratories under the definition of "auditory perspective." The object of the original investigation was to create a sound program with directional realism, i.e., the apparent source of the sound was to move about the stage in keeping with the original source of the program. After exhaustive laboratory tests a system approximately fulfilling these requirements was developed by Bell Telephone Laboratories, constructed by the Western Electric Company, and used to reproduce the music played by the Philadelphia Orchestra. The first public demonstration was given in Constitution Hall, Washington, D. C. on the evening of April 27, 1933 under the auspices of the National Society of Sciences. At that time Dr. Stokowski, Director of the Philadelphia Orchestra, manipulated the electric controls from a position in the rear of Constitution Hall while the orchestra, led by Conductor Smallens played in the Academy of Music in Philadelphia.

Although microphones, loudspeakers and amplifiers which had been developed for the stereophonic transmission system over telephone wires were available, no recording medium was known at that time which would record the wide dynamic range of intensity levels which the objectives indicated was necessary.

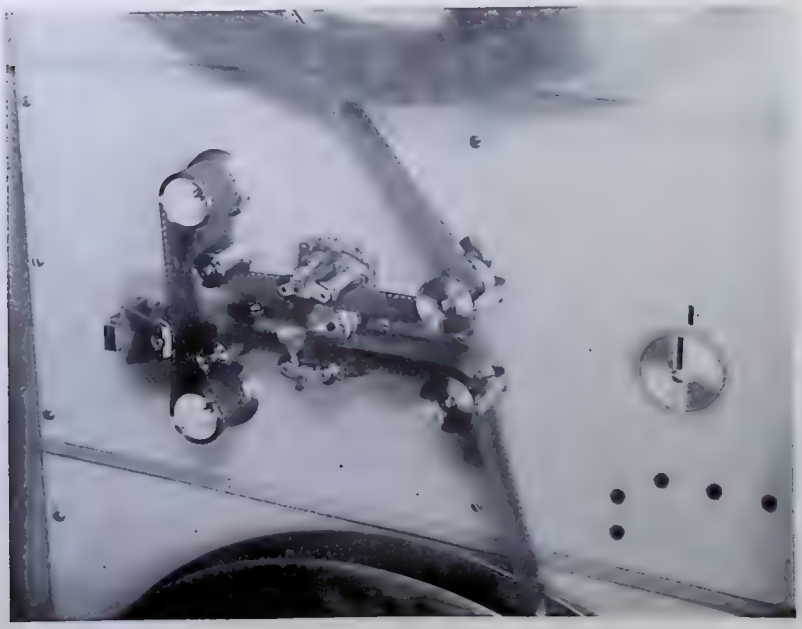
Following the successful "auditory perspective" demonstration given in Washington, Bell Telephone Laboratories, Western Electric Company and RCA working with the sound directors of the studios in Hollywood, began developing equipment to record on film, multichannel stereophonic recordings. The success gained with these original tests led to development of Fantasound, Vitasound, WarnerPhonic and what is now commonly referred to as "Stereophonic." However, little or no progress was made in commercializing the possibilities of stereophonic presentation in the motion picture industry until recently. It must be said in all fairness that practically all of the sound recording directors associated with the West Coast Studios have during the intervening years experimented and investigated the technical possibilities of this new medium available for the art of motion picture presentation. Over the years various studios demonstrated at times to company officials and industry technicians, results of their work with this technique. Only economic conditions prevented the technicians from going further.

It therefore has been very gratifying to those who have labored long in perfecting the techniques to realize that at long last the industry is ready and willing to accept the fruits of their labor, and that stereophonic sound is a part of what is a revolution in the motion picture industry.

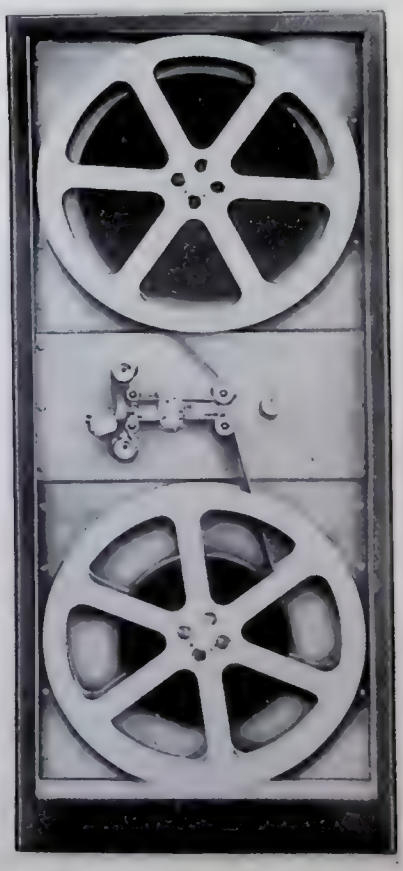
It was Fred Waller of Cinerama who drew first blood in this industry revolution. Waller persisted in spite of numerous disappointments, and eventually with the aid of Hazard Reeves and collaboration of equipment manufacturers, was able to develop the Cinerama system. The development of stereophonic effects for Cinerama were accomplished with the collaboration of the engineers of the Altec Lansing Corporation. With the eventual opening of Cinerama at the Broadway Theatre, New York City in 1952, Waller's dreams were realized and the motion picture public had a new darling. The equipment used by the Cinerama stereophonic presentation was not entirely new. High quality amplifiers capable of handling high level recordings with absolute fidelity had been available to the industry for some time. The loudspeaking systems used for Cinerama was the industry standard — Altec Lansing's "Voice of the Theatre."

Shortly after the Cinerama opening on Broadway, Warner Brothers who pioneered sound pictures in 1926 announced that stereophonic sound would be available on their soon to be released spectacular chiller "The House of Wax." In collaboration with United Paramount Theatres' gala world premiere openings were scheduled for the Paramount, New York, and the Paramount, Los Angeles, in April. Technicians of Warner Brothers, Altec Lansing, Altec Service and United Paramount engineered and installed equipments in both these theatres. The stampede was on for stereophonic theatre reproducing equipment. It was obvious that the manufacturers would be unable to supply equipment for all theatres at the same time. On the other hand, it was equally obvious that stereophonic product would not be available for all theatres at the same time. Altec Lansing Corporation and Westrex Corporation

THE MAGNETIC MECHANISM of the triple track reproducer is seen here in a close-up view.



THE TRIPLE TRACK MAGNETIC REPRODUCER needed is shown here in a view of the front.



did make available immediately a limited number of full stereophonic equipments. RCA followed by making an additional quantity available. Other major equipment manufacturers put their forces on an around the clock schedule to start producing necessary equipment to meet industry demands. Fortunately engineering and tooling for the major part of the equipment was already in existence. Therefore orders could be accepted with reasonable delivery schedules.

Explanation

It is not intended in this article to go into a lengthy technical dissertation of the equipment involved to present stereophonic recording, but rather to treat the subject on an non-technical basis. In theory an infinite number of channels is required to produce the stereophonic effect of perfection. However, it has been found that three channels will produce excellent results at a cost within the capabilities of many thousands of motion picture theatres.

In some of the current and proposed systems, sound is reproduced from the speakers located at sides and back of the auditorium, as well as from the stage. The sound so reproduced may or may not bear a normal stereophonic relationship to the sound projected from the stage speakers and the result may not be what might be called true stereophonic reproduction. The combination, however, does within practical limitations closely approximate the ideal conditions.

Each stereophonic recording channel begins with a separate microphone, has a separate amplifier system and terminates in a reproducer which deposits on the film a sound track. This can be done either optically, or as is being done on the current stereophonic recordings, magnetically. Magnetic recording is not new to studio recording technicians. It has been used for a number of years for master recording. It possesses several technical advantages over optical recording and lends itself more readily to multi-channel reproduction than does optical recording. It is safe to say that it is most likely that future stereophonic recording will be released magnetically. Each of the microphones are placed on the stage or set in relation to the action taking place in such a manner that when the multi-channels are reproduced simultaneously in synchronism the same "auditory perspective" created can be reproduced.

The reproducing system in the theatre is controlled in the same manner as is the recording, i.e., each recorded channel is picked up by a reproducer, amplified in its individual amplifying channel and feeds a loudspeaker system located on the stage in approximately the same position as was the original microphone which recorded the initial sound on the set. Therefore, multi-channel properly reproduced will create in the auditorium with relation to the screen the same acoustic illusion of the original recording setup.

It can be seen that if during the recording production the characters moved around the set, the sound as recorded in the several microphones, when reproduced, would emanate from approximately the same position with relation to the characters. For example, if a person appearing in the center of the left third of the scene speaks, the left microphone would pick up the signal somewhat louder than the signal picked up by the center microphone and considerably louder than the sound picked up by that of the right-hand microphone. In reconstructing the sound in the theatre auditorium the preservation of these relative differences in combination recreate the direction of the source. The same illusion is created for sounds emanating off stage when reproduced in an auditorium through the so-called "surround" speakers located in the auditorium proper.

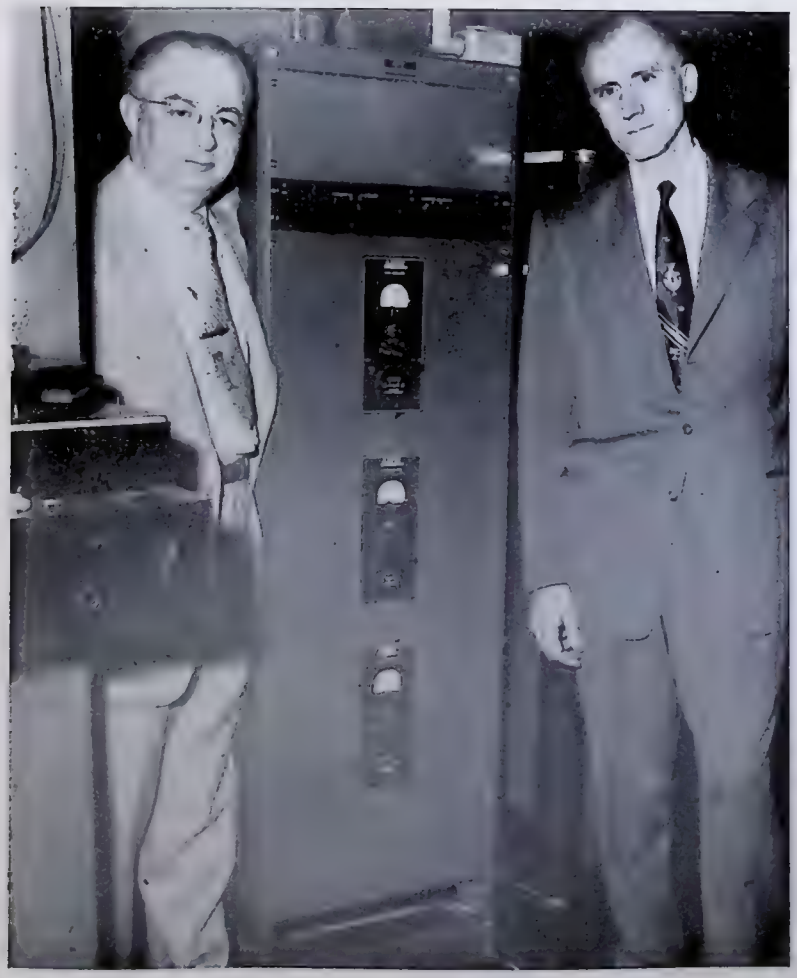
It has been demonstrated conclusively in test shots made during experimentation over the years that the employment of true stereophonic effects can and does reproduce faithfully the illusion of placement and motion. It is reasonable to assume that future use of this art will develop realism far beyond that which has already been obtained. Those who have heard true stereophonic reproduction have been enthusiastically impressed with the dramatic impact it creates.

Since stereophonic sound has become a part of the motion picture industry practically overnight, little of its detail is known except by the technicians who are closely associated with its production. The equipment and techniques involved in recording are important only to the exhibitor with regard to the final product, that being the film delivered to the booth, therefore little will be said here with regard to that phase of the subject. It should suffice to say that although microphones, amplifiers and recording equipment will be used by the studio technicians, the important part will be the know-how of the people employing these new techniques. The directors can and will create dramatic situations unheard of heretofore. Music directors will now have the tool to further enhance the musical accompaniment to supplement the dramatic effects. Musicals can and will be presented more lavishly than ever before because of techniques made available to the producer.

Care Required

The important part of this development will be its presentation to the public. All of the efforts of the studios will be wasted if the final product is not properly presented to the customers. Herein lies the success of "stereophonic." It should also be pointed out to the exhibitor and his operating personnel

THE AMPLIFIER BANK shown below is required in addition to the existing theatre sound system.



that great care must be exercised in stereophonic presentation if the effects created by the studios are to be maintained. There have already been indications in some of the initial stereophonic shows that local operating personnel have tried to improve upon the studio techniques. Very unsatisfactory results have been obtained where maladjustment of equipment and unusual effects have been created to apparently demonstrate the volume range and versatility of the equipment. It is recommended that the product be reproduced as it is produced.

At the present time most product being released is on triple track magnetic recording reproduced in a separate magnetic reproducer which is operated in synchronism with a motion picture machine projecting the picture film. In some instances a fourth optical track is a part of the picture film and is reproduced through the auditorium or "surround" speakers. CinemaScope will be released with four magnetic tracks recorded on the picture film. It will not be necessary under this condition to operate a separate magnetic reproducer, as such, but a magnetic attachment would be installed on the present motion picture projector in order to produce the four magnetic tracks in synchronism with the projected picture. In either case whether it be separate magnetic film reproduced through a separate reproducer or whether it be a composite film carrying both picture and magnetic recording on the same film, the subsequent processes are identical.

The sound is picked up by magnetic reproducers and amplified through high quality amplifiers and terminates in efficient high quality loudspeakers. The stage loudspeakers are located one at the left, one at the center and one at the right-hand side of the screen. Location of the speakers with relation to the screen are dependent upon the size of the screen and its relationship to the proscenium and the auditorium. The fourth channel whether it be optical or magnetic likewise is reproduced through an amplifier system and terminates in the "surround" speakers located in the auditorium.

Quality Equipment

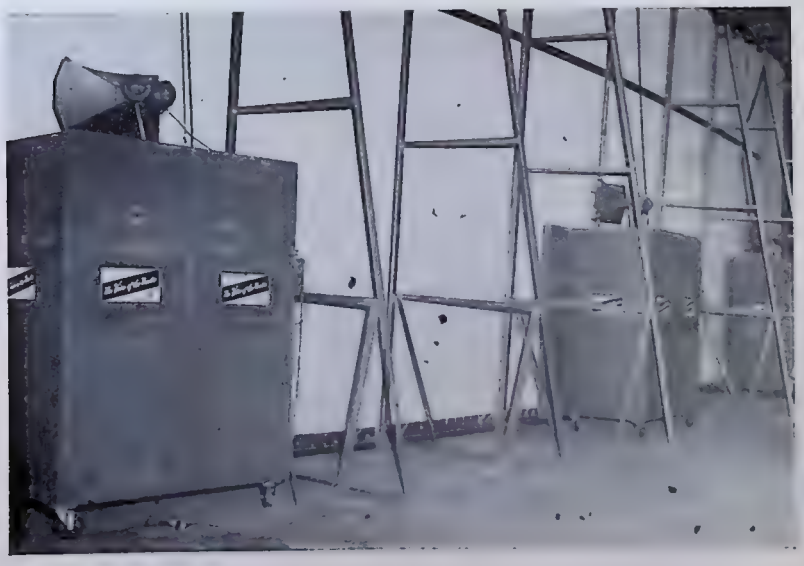
The main point to consider in contemplating installation of stereophonic equipment is, high quality reproduction is possible only with high quality equipment. The main stereophonic channels must be identical in all respects. The magnetic pick-up, preamplifiers, main amplifiers and loudspeaker systems for all three channels must be identical — not merely similar. Unsatisfactory results will be obtained if attempts are made to provide a multi-channel system with dissimilar equipment. Furthermore, to take full advantage of dynamic range now permitted by new recording techniques, adequate power in the amplifier systems should be provided to drive high quality loudspeakers at full efficiency.

Most industry dealers are planning the needs for their theatres in order to avoid the mistakes made during the introduction of sound. As a result of hysteria and a wild scramble for sound equipment in 1929 and 1930, many theatres purchased inferior equipment which necessitated replacement and duplication of costs. It is difficult at times like this to impress the exhibitors with the folly of such reasoning, since it is only natural that each exhibitor wishes to capitalize as quickly as possible on these new developments. Sound business reasoning, however, would indicate that it would be better to wait a little longer for a high quality job than to rush through an inferior one. This is an entirely new art being presented to the public. Properly presented under satisfactory conditions it will be successful. If improperly presented it will fail.

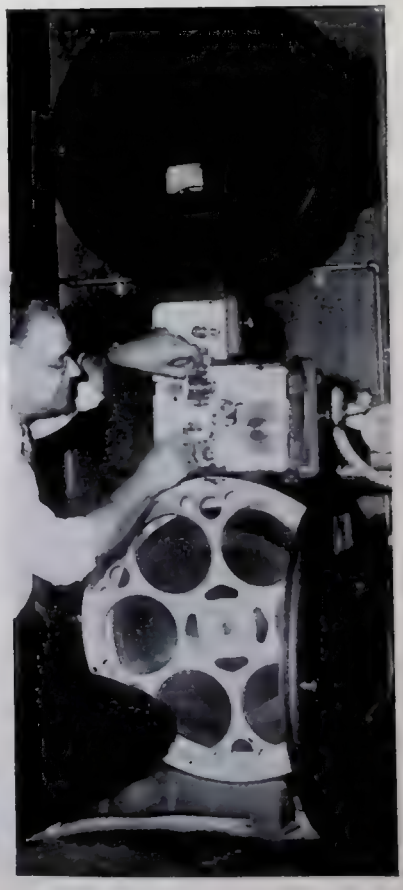
CONCLUSION

It must be borne in mind that after having selected and purchased high quality equipment and after having it installed by competent technicians, only the first phase of stereophonic presentation has been accomplished. High maintenance standards will be necessary if the stereophonic system is to be used to its full advantage. Heretofore slight degradations of quality, variations in output level, as well as changes in frequency response have not been readily noticed by the audience. While these sub-standard conditions were not desirable they were in the past tolerated. In stereophonic operation these important matters cannot be ignored. It is of prime importance that the quality, frequency response and volume levels between channels be held to very close limits of deviation. The balance between channels in full stereophonic reproduction is controlled by the recording engineers at the studios. Only faithful reproduction on well maintained theatre systems will enable the audience to capture the effects which the directors have created. More care and attention will be required on the part of the projectionists and the service inspectors to maintain these high standards.

THE PROPER POSITION FOR THE THREE LOUD SPEAKERS necessary to produce high quality stereophonic sound is shown here in a behind-the-screen view of the Mastbaum in Philadelphia in a demonstration of the Fox CinemaScope wide screen system. Note the framework used to support the screen.



A CENTURY HEAD has been adapted in this unit to handle three magnetic sound tracks.



Light Surround Screens

The Elimination of the Traditional Black Masking is Made Possible by a Number of New Developments

Motion picture exhibitors have long had the reputation of being rather cautious when it came to trying something radically new in the way of equipment or construction. Although some may find this conservative attitude a bit trying at times, it is basically a healthy approach. If the nation's theatres were to immediately accept every new "revolutionary" advance in the technique of motion picture presentation, the entire industry would be in a constant state of movement and confusion. Once something has proven itself, however, theatremen are willing to test and try. No greater proof of this can be given than the current activity in three-dimensional and panoramic films. But even before this, there was an important step taken with the development and use of light-surround screens.

For generations it was standard to provide all screens with a black masking. As more and more research went on it was learned that this sharp division between the lighted screen and the black border, was not the most efficient manner of viewing film. Today, the light-surround screen is gaining in popularity with the exhibitors and the public. In order to allow its readers to get a fuller understanding of some of the screens with a light-surround, THEATRE CATALOG has gathered information about a number of the various ones that are currently available.

BRIEF: *The black masking around the screen in motion picture auditoriums is as old as the industry itself . . . For various reasons . . . which are explained here . . . it has become the accepted method of mounting screens . . . However, recent developments have shown that it is more practical . . . and more entertaining . . . to eliminate the black border and replace it with a lighted surround.*

A number of light surround screens are presently available to exhibitors . . . This article discusses three of these and gives information as to their operation . . . installation . . . and uses.

CALDWELL HALO SCREEN

Late last year Ken Caldwell unveiled his Halo screen to the audiences of Buffalo, N. Y. Its acceptance on the part of the audience and local film exhibitors was favorable. Since then the screen has been installed in leading theatres in Detroit, Elmira, Chicago, Miami, and elsewhere.

Operation

This screen operates on the principle of rear and side lighting, and has the projection screen hanging in mid-air, all supports being invisible to the audience. To the rear, approximately two feet, hangs a dimly lighted cyclorama, and this distance allows the eyes of the patrons something to measure by, and results in creating a feeling of depth. The presence of this light surround, which is on all sides of the screen, top and bottom, causes the iris in the human eye to narrow down a bit. It is claimed that this results in a much sharper image on the screen than could otherwise be possible through mechanical means. A sharp, clearly cut projected picture is the result. Contrasts are greatly increased between lights and shadows, and by using the two planes of light a deep sense of depth is obtained.

The light surrounding the projected picture is operated at a constant intensity and does not vary, being brightest at the edge and gradually diminishing to infinity at the outer edges. Being such it is not distracting to the audience and takes nothing away from the action of the film on the actual picture surface of the screen.

There is much natural depth photographed into color films, and the Caldwell Halo screen is said to be of great assistance in bringing this out. On straight black and white film, while not as noticeable as on color, depth is also present to a marked degree, while in night scenes on black and white film,

THE CALDWELL HALO SCREEN (Fig. 1) has the screen hanging in mid-air, all supports being invisible to the audience. The light surrounding the projected picture is operated at a constant intensity and does not vary, being brightest at the edge and gradually diminishing to infinity at the outer edges.

THIS DRAWING (Fig. 2) shows how the stretch wire should be put in when erecting the screen.

objects that would otherwise be blurred in the black background become sharply outlined and are visible.

Novelty

The sheer novelty of a movie screen surrounded by light instead of the black masking, has a special appeal to the audience. By not having a sharp line of demarcation from the light to the dark, as is present when the screen is masked, the eyes have a chance to widen to their natural vision and not concentrate on a brightly illuminated picture area. It takes eye muscles to narrow down vision, and this in turn results in eye strain and headache. The Caldwell Halo screen is said to allow full vision with no muscular action, and thus completely eliminates all eye strain, usually accompanying the viewing of the old type screen with black mask surrounding it.

Installation Procedures

The first thing to do in installing the Caldwell Halo screen is to find dead center of the stage. Locate it and mark a chalk line thereon that can be used during the installation to center all hanging material. It is most important that everything be centered. Also outline on the floor with chalk, the present position of the screen frame. As all measurements for screen size are based on this exact position of the screen, it is most important that the frame remain at this exact position when the Halo screen is finally assembled.

Begin taking down the black masking from around the screen on both sides top and bottom. Be careful when removing this material as it is later to be used again for backing as the screen is porous, and the rear lighting must be blocked off through the use of this masking or it will show through the projected picture.

After all the masking has been removed, lower the screen frame to the floor and allow it to extend flat out over the pit onto the first few rows of seats, or if the stage is large enough, allow it to lie flat on stage so that it can be cut down to size. On frames that have two by four corner braces on them, these are to be removed and a flap piece of band iron substituted and the frame recessed so as to allow the band iron corner braces to fit flush with the frame. This must be done as the screen has to be laced over and around from the front and laced in the rear. If the entire rear surface of the frame is not flush, trouble will be experienced with lacing and all the wrinkles will not be able to be removed on the front surface of the screen.

On frames that have a center two by four upright support, this must be cut and fitted in flush to the inside edge of frame so as not to interfere with the lacing at this point.

When the screen is cut to size and corner braces are recessed and center upright support is fitted flush with inside of the edge of the frame, make sure that all bolts are tightened and then check the frame for "square." Check all four corners and square if necessary.

Mark dead center of frame on top, bottom, and both sides as the screen is also marked with dead centers. This will assist in properly locating the screen when it is unrolled prior to lacing it to frame. The screen has an overall of 10 inches more than the frame size to permit it being brought around the outer edge of the frame and back around the rear and to be laced in the rear.

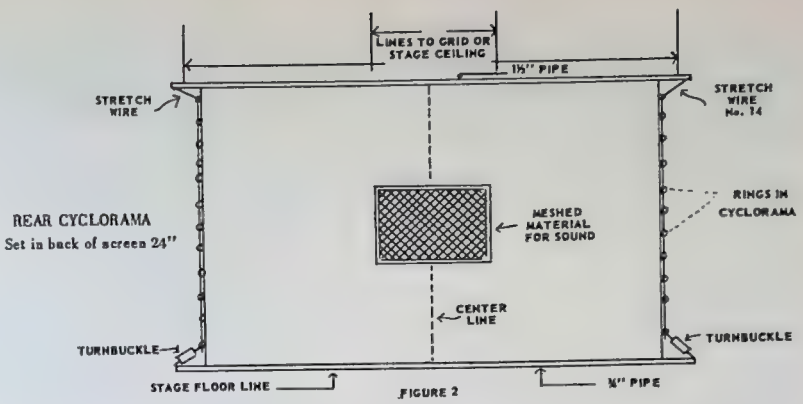


FIGURE 2

Flying

If the screen is to be flown, the conventional hanging will be used, namely cables to the grid through the screw eyes on the top of the frame. If cantilever hanging is to be used, it will be necessary to drill four ⅜-inch holes straight through the side of the screen frame prior to lacing the screen. This can be done when the frame is on the floor during the cutting down to size operation. The cantilever comes in two sections bolted together. Seperate the two sections and use the "Y" section as a template to locate the four ⅜-inch holes to be drilled, as holes in this "Y" section are already drilled in the steel and this section should be dead center on the sides of the frame to permit proper balancing. When these ⅜-inch holes have been drilled, insert the 5/16 by seven-inch carriage bolts that are furnished with this job, and knock them into the frame until they are flush with the outer edge of the frame.

The drilling of these ⅜-inch holes and the knocking in of the bolts flush with the outer edge of the frame should be done prior to lacing the screen to frame to hide the bolts from side vision. Also all lacing hooks should be removed for the entire distance the "Y" section of the cantilever occupies. Nails should be substituted for these hooks for this distance only so that when the cantilever is finally installed, the nails can be temporarily removed and then put back once the "Y" section of the cantilever is in place and bolted down. Holes are drilled in the "Y" section to drive the nails through.

Lacing

Some prefer to start the lacing when the screen frame is lying flat, supported from beneath with boxes or wooden horses to permit getting in and around underneath for the lacing. Others prefer to have the frame in upright position before starting lacing. Whatever method is used, the dead center marks on the frame will be of aid in locating the screen itself before the lacing is started. Get lacing all done before proceeding further, making sure all wrinkles are removed from the outer surface.

If old screen is to be used, it will have to be tacked onto outside edge of the frame. Start in center of each side and work out to edges. Trim off surplus with scissors.

You now have the frame cut to size and the new screen or old stretched on this frame, the 5/16 by seven-inch bolts inserted through the frame at dead center, so you are ready to hoist the screen to an upright position so as to attach the cantilevers. Make yourself a set of two guages for distance from floor (18 inches). This can be done through the use of two pieces of lumber any size that overlap each other. Fasten these with finishing nails to outer edges of screen frame and they will enable you to see at a glance the correct position of the screen at this point. They will also enable you to see if the screen is lined up with chalk marks on the stage you originally made prior to taking the screen down.

The next step is to attach the lighting troughs on the rear of the screen frame. With each shipment of lighting troughs, a pencil sketch of the proper position of each section is also found. There are steel brackets on each section for attaching the troughs to the frame. Use wood screws for attaching. Metal screws are included with each section for attaching section to section. Wire connectors are also furnished with each shipment for connecting wires. The wiring is parallel. Connect wire to white, and black to black. On the lower section where wires come out through a bushing, a feeder line is to be attached thereto and brought back through the cyclorama, but kept high enough as not to show to the audience. A dimmer can be inserted in series to reduce the intensity of the lights, if the management prefers it reduced.

Now you have the screen on the frame, and the frame hung on wires, and the lighting troughs installed. The next step is to install the "Y" sections and bolt them down firmly.

Do not put the "I" section of the cantilever in place until the rear cyclorama has been hung, as it is evident that the cantilever has to come through the rear cyclorama, and holes must be located prior to cutting them in the cyclorama to permit the passage of the cyclorama through the cantilever. If cables are hung and cantilever assembled prior to the

hanging of the cyclorama, the hanging wires will be visible and cyclorama cannot be brought close enough to the actual screen. The completion of the assembly of the cantilever must be delayed until the cyclorama is hung and the holes located for the cantiliver to come through. The set of lines used to hang the screen prior to the installation of the cantilever must be 30 inches ahead of the cantilever cables as the distance on the "Y" section of the cantilever from the tip of that section to the hole bored for the cable is 30 inches.

When you set up the turnbuckles, make them halfway so that they can be let in or out as they need be. The purpose of the turnbuckles is to properly balance up and level the screen in any direction. The turnbuckles on the floor can be used to tilt the screen either in or out as may be required. In cases of marked "Keystone" effect, the screen can be tilted up towards the booth to overcome a "Keystone" or greatly reduce it.

Cyclorama

You are now ready to install the cyclorama. This comes with tie lines on the top, and a pocket in the bottom for the insertion of a pipe batton (a piece of ¾-inch black pipe). You will also need a length of one and one-half inch pipe for the top. Mark dead center on this pipe in white. Get dead center of the cyclorama and line up and with the ties fasten the cyclorama two inches from the floor and tie off the lines. However, before raising this top batton, insert the stretch wire into the pipe at ends and knock a wooden plug into the inside of the pipe to hold the wire from pulling into the center. The end of the batton should extend out two feet from the edge of the cyclorama. Run the stretch wire through all the rings on the edge of the cyclorama straight through to bottom. Put turnbuckles in at the bottom and take a strain on them. Not too much as it will pull the rings out of the cyclorama, but enough to take out any wrinkles in the cyclorama.

Do not fasten the cyclorama to the floor, which is afterwards done with pipe clamps, as the cyclorama must be left free to move backwards when installing the cantilevers and masking.

Now is the time to install the black masking behind the screen. Use at least a four foot wide section, preferably a six foot section, of this masking and tack it onto the inside edge of the screen frame in the rear. Get it tucked in tightly so that none of the reflected light on the cyclorama can come through when the picture is projected. Do this on top and bottom of the frame and also on the sides. Turn out all house lights and with the cyclorama hanging, but not fastened to the floor, turn on your trough lights on the rear of the frame and go into the theatre at the first row of seats and see if there is any light getting through. If there is still light, it is due to the fact that you did not use a wide enough piece of masking and the front of the cyclorama will have to be coated with a flat black water paint wherever the light shows. This coating with water paint is hardly ever necessary, but it is merely mentioned in case the emergency arises.

Measure the distance from the floor to "Y" section on the cantilever arm and cut a slit in the cyclorama for the cross arm of the cantilever to come through. Insert this section of the cantilever through the cyclorama and this will bring the cyclorama closer to the rear of the screen and frame.

The next step is to attach the "I" beam section of the cantilever to the "Y" section. This is done with two ⅜ bolts and nuts. Tighten these very tight, but not enough to strip. Let in the two cables that you have previously located overhead for the cantilever and fasten to the "I" section. Turnbuckles are used at this point to make this connection. See that these turnbuckles are let half in to allow for adjustment either way. When both cantilevers have been installed and turnbuckles adjusted, take a strain on these lines so as to make the front line holding the screen slacken a bit, and to permit their removal and your screen is then hung on the cantilever entirely. Adjustment of the screen to correct position can then be made through the use of the turnbuckles.

Now install your ground lines of the cantilever. Use eye bolts that will go straight through the floor, and then under the floor use a piece of one by four wood two feet in length to make a washer for the eye bolt when it comes through the floor. In this way the strain at this point will not be on one piece of flooring, but will be divided across two feet of floor space. This is important since if only one piece of flooring is used, it might possibly pull up and drop the screen frame forward onto the audience. A turnbuckle is used at this point for a line from the "I" beam section of the cantilever to this eye bolt on the floor. Use ⅜ cable and cable clamps to make this connection and tighten the clamps tightly to prevent slippage. Take up on the turnbuckles until there is a strain on the wire. Better yet, hand pull this wire until a strain is taken and then insert the turnbuckles, half turned out so that these turnbuckles can be used to align the screen into its proper position.

Everything is now done and it is time to fasten the cyclorama to the floor. It has been left two inches off the stage floor and by applying pressure with your foot to bring it to the floor, pipe straps, one at each end, can be used to hold it to the floor.

It is essential that all wrinkles be taken out of the cyclorama when it is finally attached. This can be done by applying pressure to turnbuckles holding stretch wire on the sides of the cyclorama, and also when you bring down to stage floor the cyclorama which has been up two inches.

If draw curtains are too far off stage, it will tend to make the picture appear too small. Try and maintain the recommended distances so that the Halo effect will be most pleasing.

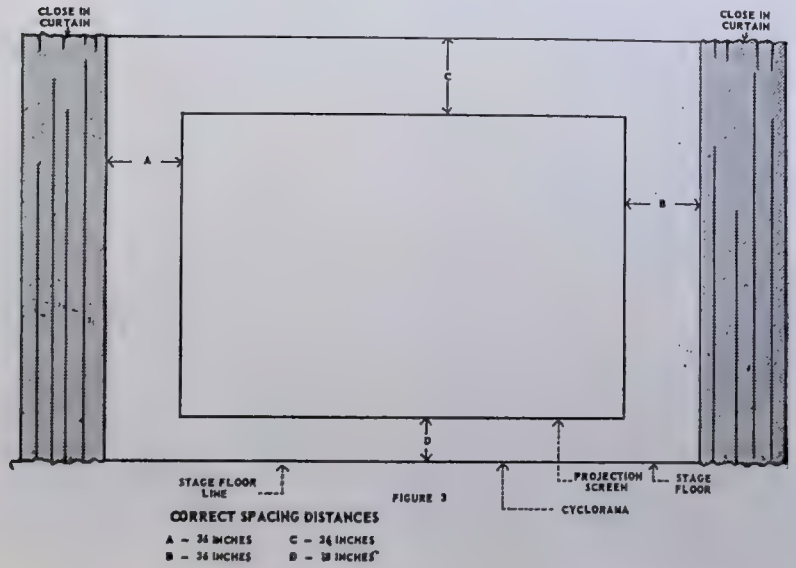


FIGURE 3

INDICATED HERE (Fig. 3) is the proper trim for all equipment used in the Caldwell Halo Screen.

RAYTONE'S TRANSCENIC SCREEN

The Transcenic screen surround was devised by Raymond Mullen of Leominster, Mass. Raytone Screen Corporation, who is the exclusive distributor for this device, built and installed the first commercial model of the screen at the University, Cambridge, Mass. Other installations have been made, and the results are said to be very satisfactory.

Theory and Method

Currently there are a number of different light-surround screens on the market. The theory is the same for all new systems: Make motion picture screens larger —and then extend the effective picture area so that both eyes observe a full panaroma, just as they do in normal viewing. When this is achieved viewing comfort is said to improve tremendously.

The method of achieving panoramic viewing varies. Essentially there are two schools of thought. The Raytone Transcenic system believes that the area around the picture should be lighted in a more or less constant value, just as is normal in day or night vision, instead of

THE RAYTONE TRANSCENIC SCREEN (Fig. 4) makes use of constant light source, as opposed to fluctuating light level found in some systems.

changing intensity or tone. The proponents of this system contend that the fluctuation of the light surround in other sysems is annoying and causes the eye's iris to contract and then dilate constantly.

Human eyes can focus on any one object—but day or night they perceive a marginal area always slightly out of focus, of close to 200 degrees horizontally and well over 100 degrees vertically. Transcenic is said to be designed to approach normal viewing conditions in the theatre without distracting from the perfection of the motion picture in any way. The psychological factor is important. Patrons "live" the action on the screen. Nothing must be allowed to destroy this illusion. That is why the Transcenic surround is illuminated from the booth with a small slide projector with patented mask. No surround light hits the screen and the level of steady illumination is controlled by a small dimmer at a point found pleasing to the eye.

The architectural features of the Transcenic surround give the eye a comparison point. The eyes look "into" the picture, thereby gaining some illusion of depth, although it by no stretch of the imagination gives a three dimensional effect, it is claimed that it can be adapted to provide a perfect setting for stereoscopic film presentations.

Another feature which gives this screen surround flexibility is the fact that since the light source is supplied from a slide projector, it is possible to supply special color effects and atmosphere lighting. Very little stage depth is required for the system, and the screen curtain can be used between features, or for a candy intermission.

Advantages

According to the manufacturer, the Transcenic screen has a number of advantages which should be of interest to exhibitors.

1. The surround is held steady, and at a level found to be pleasing and comfortable for the theatre. There is balanced lighting over the entire field of vision, and it takes in the entire proscenium.

2. The light is controlled from the booth by the operator. There is a simple dimmer on a slide projector which only requires an ordinary electrical outlet. This eliminates the expense of a wiring system.

3. Only 30 inches from the screen to the front of the columns, the screen curtain can be used at any time. The entire system can fly.

4. This screen is said to offer a well-proportioned surround regardless of viewer's position in the auditorium, thus making for satisfactory viewing from any seat.

5. There is no need for radical changes in the stage hangings. The installation of this screen usually only requires moving of the screen curtain track.

RCA SYNCHRO-SCREEN

Although New York architect Ben Schlanger had been working on the principle of the Synchro-Screen since 1938, it was not until December 18, 1951 that the first RCA Synchro-Screen was installed in the Plaza, New York City, and offered to the public.

Description

In general a Synchro-screen assembly consists of the motion picture screen and frame with the addition of a surround screen area made up of two side wings, a top panel and bottom panel. The two wings, as well as top and bottom panels, are basically screens and frames of special designs, so that the stage setting assembly consists essentially of five screen surfaces and frames arranged in a definite relation to each other, and to the projected picture light.

One of the original reasons for the use of black masking around screens was to reduce the maximum projected picture area in order to conceal the projected edges of the picture aperture. In much the same way, the four surround panels of Synchro-screen encloses a picture area slightly smaller than that projected in order that the edges of the picture will fall on the surround screens very close to their inside edges. The design and positions of the surround screens cause the image of the picture edges to be so completely out of focus that no borders are able to be seen from the seating area.

The screen surfaces of the surround area receive and simultaneously reflect diffused light from the relatively adjacent area on the picture screen in such a manner that intensity of light and the predominant color of the adjacent pic-area are reflected synchronously from the surround panels to the audience as a blended extension of the picture in light intensity and color. It is said that at no time during the presentation of a picture on the Synchro-screen, is the brightness of the surround area as bright as the nearest area of the picture. This being so, it is claimed that there is never any distraction of the attention from the picture itself.

Installation

Synchro-screens are manufactured as a complete package in 17 sizes. This

ranges from an initial size of a screen with a projected picture width of 12 feet and increasing one foot in width up to about 30 feet. The largest installation up-to-date has been the screen at the RKO 58 Street, New York City, which measures 30 feet, seven inches.

The picture screen itself is the RCA Evenlite screen. The fact that this screen has no perforations has three effects: first, the screen material of the wings matches the sides of the picture screen; the side areas of the picture screen reflect the maximum amount of light so essential for optimum illumination of the surround; and finally, the Evenlite screen has been found to be a practical solution to the problem of obtaining screen brightness of an essentially uniform value from all points of this screen's surface.

Synchro-screen shipments are made knocked down. Total shipping weight for a picture size of 15 by 20 feet is about 800 pounds. The five screen surfaces used in the complete assembly are shipped in tubes and the structural frame members are strapped into bundles with the exception of the top and bottom panel frames, which are prefabricated into half sections for more rapid assembly job. Hardware is included in a kit assembly parts and instructions. All members are lettered for ready identification and match marked for easy assembly.

Basically, the installation of a Synchro-screen requires the erection of five frames and screens of various sizes — comprising the picture screen, the left and right side wings, the top and bottom panel — with wings and panels in proper relation to the picture screen. The picture screen is facelaced to bring the screen surface in a plane where the wings and panels can be in close contact. The screen material is wrapped around those edges of the wings and frames which are in contact with the picture screen or exposed to view.

Architecturally, the Synchro-screen presents the appearance of an orderly, organized, and attractive stage setting for motion picture presentation. It offers an economical method of creating a new atmosphere in the zone of maximum patron attention in the auditorium. The use of a draw curtain in front of the Synchro-screen is said to have a dramatic value, especially when the large luminous reflecting surfaces gradually come into view as the performance begins.

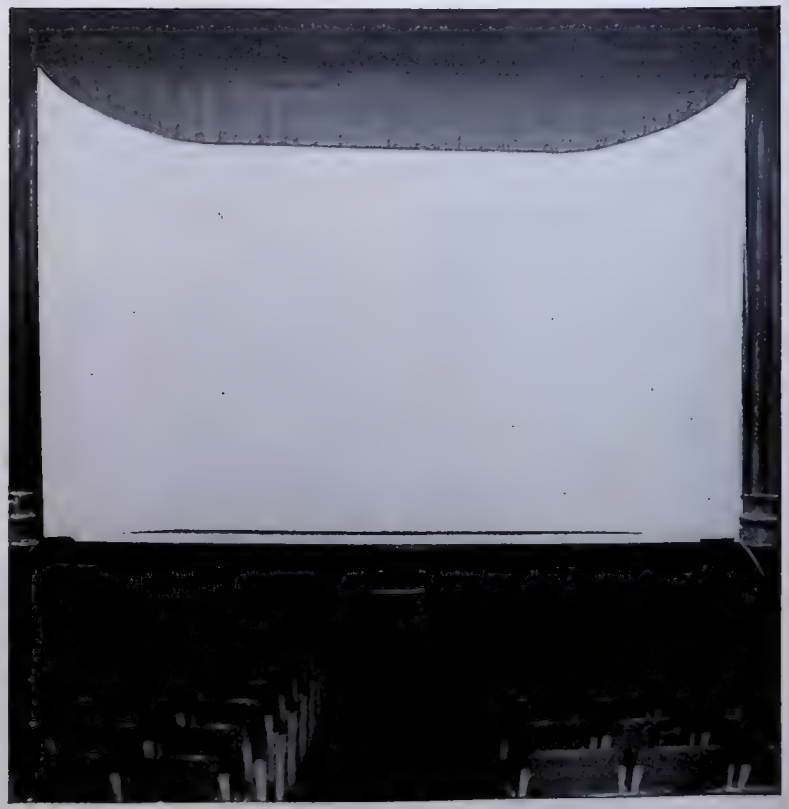
The RCA Synchro-screen has been installed in a large number of theatres in the United States, and was recently introduced with great success in Great Britain and on the continent. Included among the advantages claimed for it are: the picture appears to be larger, less confined; color is softer, more realistic; screen action becomes a more intimate experience; and viewing comfort is improved.

CONCLUSIONS

The three screens discussed here do not represent all the light-surround screens that are, or soon will be, available. However, it seems quite evident by the amount of research and development going on in this area, that the day of the black screen masking is coming to an end. The two major reasons for having a screen masked in black have been eliminated. In the early days of film projection the light sources were not strong enough to supply a proper amount of light and the black masking helped to supply a necessary contrast. With today's modern lighting equipment this is no longer the case. The other reason was to prevent the uneven edges of the projcted film from being seen by the audience. The new types of surrounds have made this reasoning invalid, also. It seems a rather safe prediction that exhibitors will soon be taking their motion picture screens out of mourning and removing the black border for a surround which will be more in keeping with the spirit of film entertainment.

Naturally, the sudden and rather unexpected emergence of the various new wide screen techniques, will probably affect the development and use of the light surround screen. It is interesting to note, however, that in almost all of the new panoramic systems that have appeared to date, the black border has been practically eliminated.

Only the future can decide what the fate of maskless screens will be. It appears certain, however, that regardless of screen size, the mask is coming off.



LARGEST SYNCHRO-SCREEN in the nation (Fig. 5) was recently installed at RKO 58th Street, New York. The new screen, is 30 feet, 7 inches in width, with 12 foot wings on either side, and fills theatre's entire proscenium arch. On the left; (Fig. 6) is a rear view of screen showing removable side wings.

Metal Reflectors

A Comprehensive Analysis of the Development, Manufacture and Use of the Metal Motion Picture Projection Reflector

By E. B. Heyer
President, Heyer-Shultz, Inc.

BRIEF: *As motion picture techniques have improved . . . they have also made more demands on the equipment that is required to project the film . . . Lighting . . . as perhaps at no other period in the history of motion pictures . . . is of major import . . . One of the vital parts of the projection lighting equipment . . . is the reflector . . . This article . . . authored by one of the original designers . . . gives the background and development of the metal reflector . . . It describes how and why this type of reflector was designed . . . its manufacture . . . and the various tests that are performed to insure the accuracy and perfection of the finished product.*

November 10, 1934, saw the birth of an idea that was destined to give to the motion picture industry a new and much needed item for projection equipment.

The trend towards more and better light on the motion picture screen had, at that time, sparked the development of the Superex arc, which was a great improvement over the low intensity arc, not only in quantity of light, but in quality as well.

However, this more volatile arc brought with it a new problem. Its discharge of molten copper, hot carbon particles, and core gasses, as well as the additional heat due to the higher amperage it worked at, in many cases caused extreme pitting, cracking, and breakage of the back silvered reflectors in use at that time.

The result was a demand for a better reflector; one that would withstand this beating year in and year out; a reflector made of metal that would not pit, tarnish, or break.

This challenge was taken up by the author and the late Charles E. Shultz. They began work on the idea with some antiquated machine tools, found in a local welding shop. The project was not an easy one because for one reason, no such precision metal reflector had ever been made and consequently reference data was non-existant. Extensive experimentation with various metals and reflective finishes, as well as much development work in perfecting methods of fabrication, resulted in the creation of a commercially practical metal projection reflector. Field testing in theatre booths further proved the worth of this new product. A company was formed for the purpose of producing this new reflector and shortly thereafter a rugged, durable, all metal motion picture projection reflector was put on the market.

Construction

This new reflector was constructed of a heavy brass base with a rhodium finished front surface. Although rhodium was not as reflective as silver, a method was devised whereby the reflector would produce as much delivered screen light as the average back silvered reflector. This was possible only because the reflector curvature was constructed mechanically by precision machine shop procedure. Its elliptical curvature was so highly corrected that it utilized more of the light from the arc by way of aperature spot concentration.

In a motion picture projection reflector, precision of curvature is essential. Lack of precision creates a loss in efficiency, introduces unwanted color and cuts down on the depth of focus.

Precision Necessary

There is a definite degree of precision necessary in a projection reflector, if it is to operate efficiently. The metal reflector was designed along this line of reasoning, and has for the past 18 years been carefully manufactured to the close tolerances originally decided upon. By strict adherence to these tolerances, it was possible to give; pure white light, free of all unwanted colors; true color rendition of color film; maximum depth of focus; and standardization in manufacture, guaranteeing interchangeable reflectors and invisible changeovers.

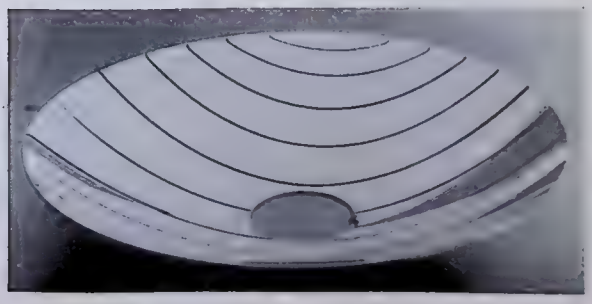
To illustrate the difference between precision and non-precision, we accompany this text with the two unretouched photographs, A and B. These are pictures of a screen that has been laid out in three-eighth inch stripes, spaced six inches apart. The pictures represent reflections of the striped screen as seen in two different metal reflectors. Because of photographic angles and distances necessary in obtaining these pictures, the stripes are, of course, curved.

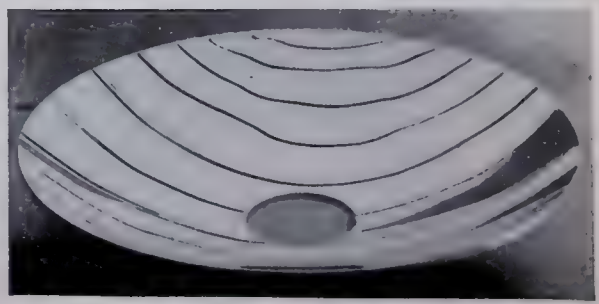
Print A is a finished precision all-metal reflector, taken from a stock run. In this photograph the stripes on the screen are reflected in a true, symmetrical pattern, evenly spaced and unwavering from edge to edge, of the reflector. This reflector has been carefully corrected to the required elliptical curvature and is an excellent example of precision.

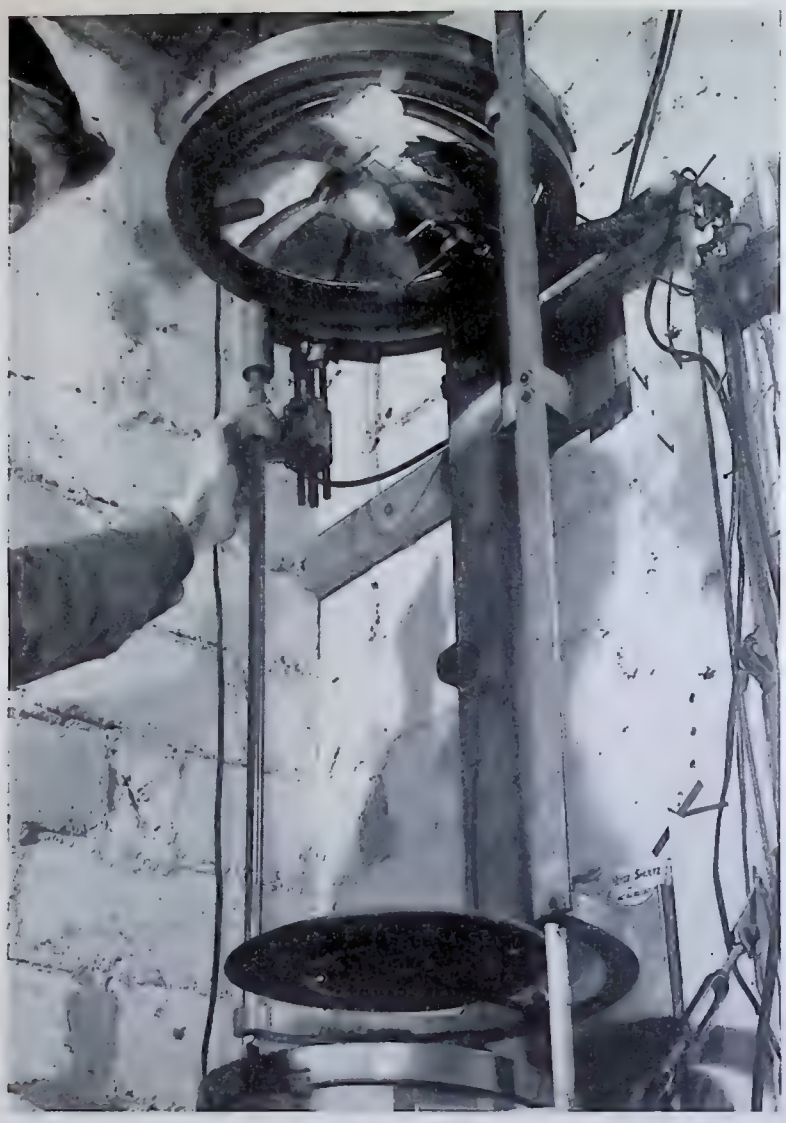
Print B is a polished "bank" that has not as yet been put through the curvature correction operations. Although it has been stamped to curvature with accurately made dies, the photograph plainly shows the inaccuracies that still remain. These variations from the true ellipsoidal curvature have horribly distorted the stripes. In a lamp, this reflector "blank" would disperse the focused direction of the arc, causing a terrific loss in splash light on the cooling plates, the cone, and even within the lamp. It would also pick up all the unwanted colors of the arc and the glowing carbons. It would be practically useless.

Curvature correction, as already stated, is the deciding factor in controlling correct color rendition and working range. Unwanted color, differing from that of the crater, appears in the following manner: Let us suppose we are imaging the crater of a simplified high-intensity type carbon arc as shown in Figure 1, in which the colors of the arc are divided into three zones, marked C, A and B.

PRINT A (left) IS A FINISHED all metal reflector which has been carefully corrected to elliptical curvature that will give best results. Print B (right) is a polished "blank," that has not yet been put through the curvature correction operations. As it is it would be useless in a lamp.







TESTING EQUIPMENT is very important in the manufacture of metal reflectors. Seen here is an optical testing device used to check accuracy.

The first section (C) represents the discharged gases of blue and purple color. Section (A) represents the snow-white area formed in, and directly adjacent to the crater floor of the arc. Section (B) represents an area formed by the glowing carbon surrounding the crater which is yellowish in color.

To produce a snow-white image focusing of zone (A), it is necessary to focus only zone (A), without including zones (B) and (C) and their undesirable color characteristics. This condition of separa- of the zones can only be accomplished by the utilization of a highly accurate ellipsoidal curvature as nearly free from aberrations as possible.

This high degree of curvature correction was arrived at and held to in production by means of special optical light testing equipment, designed and built by the manufacturer.

Testing Equipment

The testing equipment consists of a rigid rack on which a reflector may be placed in an inverted position. Directly below the reflector, at its focal point, is situated an incadescent bulb having a coiled wire filament one-eighth inch long. Further down the rack, at the proper working distance position for the reflector being tested, is located a long focal length camera lens with adjustable iris. Below this point—where the camera lens comes to focus—is a small screen on which appears an image of the illuminated reflective surface of the reflector under test. Testing for correctness of optical curvature is made with the iris closed down to its smallest opening (approximately one-eighth inch diameter). Under this condition it means that every square inch of reflecting surface area must be focused through this small iris opening—if an illuminated surface image is to be seen on the screen below. The slightest distortion of the true elliptical curvature will create a shadow area in this image, which means that not only must the curvature be true, but also the base material itself must be thick enough to be rigid and to thereby hold its position without springing or warping.

This test equipment is also used for close inspection to the texture of the polished reflecting surface. In this manner, it is possible to check for metal flaws, faulty grinding, faulty polishing, and even faulty electro-plating. During the course of production metal reflectors must undergo four individual checks in this optical testing device. Consequently, it is possible to maintain a very high standard of production.

This new projection reflector was immediately accepted by the motion picture industry, not only from the standpoint of dependability, but also because of the economy angle. With the metal reflector no periodic replacements were required due to breakage. Therefore, no spare reflector was needed for such an emergency.

As time went on, the metal reflector proved itself to be even more rugged and dependable in the field than the manufacturer had anticipated. By September 1944, the thousands of successful installations had proven beyond a doubt that this metal reflector was a far more dependable and economical projection reflector than the back-silvered type currently in use. The final proof of the statement was evidenced by the demand for the refinishing of worn and scratched metal reflectors that had been in constant use anywhere from six to 10 years. In line with this demand, a rehabilitation service was introduced. This constituted

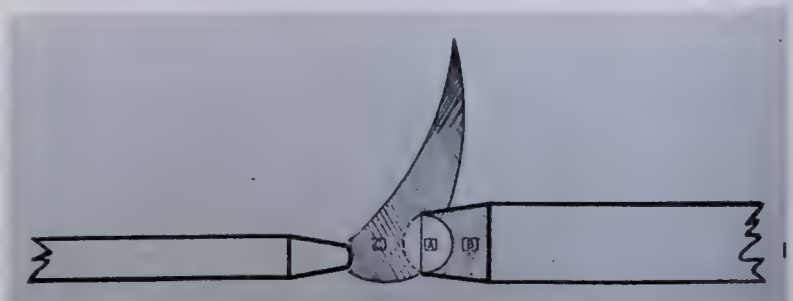


FIGURE 1

FIGURE 1 REPRESENTS a high-intensity type arc with the arc colors divided into three zones.

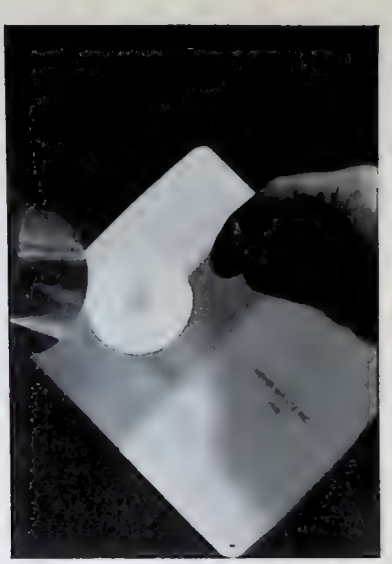
completely refinishing the reflector, including a new rhodium plated reflective surface which returned the merchandise to its original condition.

With rehabilitation, therefore, it was possible for the exhibitor to keep his metal reflectors in top working condition almost indefinitely. After 10 years of very successful performance records, the manufacturer decided that the merchandise could carry a five year guarantee in place of the original one year guarantee.

Another innovation, was the pin hole plate, for use in aligning the lamp and projector. When checking alignment with the pin hole plate, the lamp and projector became an optical testing device, identical in operation to factory optical testing equipment. However, instead of testing the reflector with this arrangement, it is used for setting up a true axis of the entire optical train, or, in other words, obtaining accurate optical alignment of the arc, reflector, aperture and objective lens. The original design was for use in place of the standard film aperture plate. The newest type is used in the film track so as to be on the film line, and has been renamed the film track pin hole plate.

With the plate in place in the projector, the small pin hole is dead center of the aperture opening, and passes only the correctly focused light of the arc, to be focused by the objective lens into an image of the reflector's surface, a short distance in front of the lens. This is called the aerial image, and it is the manner in which the circular color bands can be made to appear in this image, that determines optical alignment.

Print E shows the appearance of this small (approximately two inch diameter) reflector "aerial" image. The shadow image within the aerial image is made by the positive guide rest and negative carbon. When alignment has been completed, and all color bands are removed by focusing the arc, the reflector "aerial" image will appear full and evenly illuminated, providing that the reflector is of precision elliptical curvature. Any departure from true elliptical curvature will show as color in the aerial image, and it will be impossible to clear it out.



PRINT E SHOWS THE appearance of the aerial image of the reflector. When alignment has been completed, image will appear fully illuminated.

Drive-Ins

With the coming of the drive-in theatre, and the larger, even more volatile arcs needed to illumniate the enormous screens, the metal reflector became practically a "must." The terrific lamp heat, the "up" angle of projection and the cold night air drafts, created new wear and tear problems.

Then the drive-in headache was enlarged upon by the construction of bigger drive-ins with even larger screens and again, the problem of sufficient illumination of the picture.

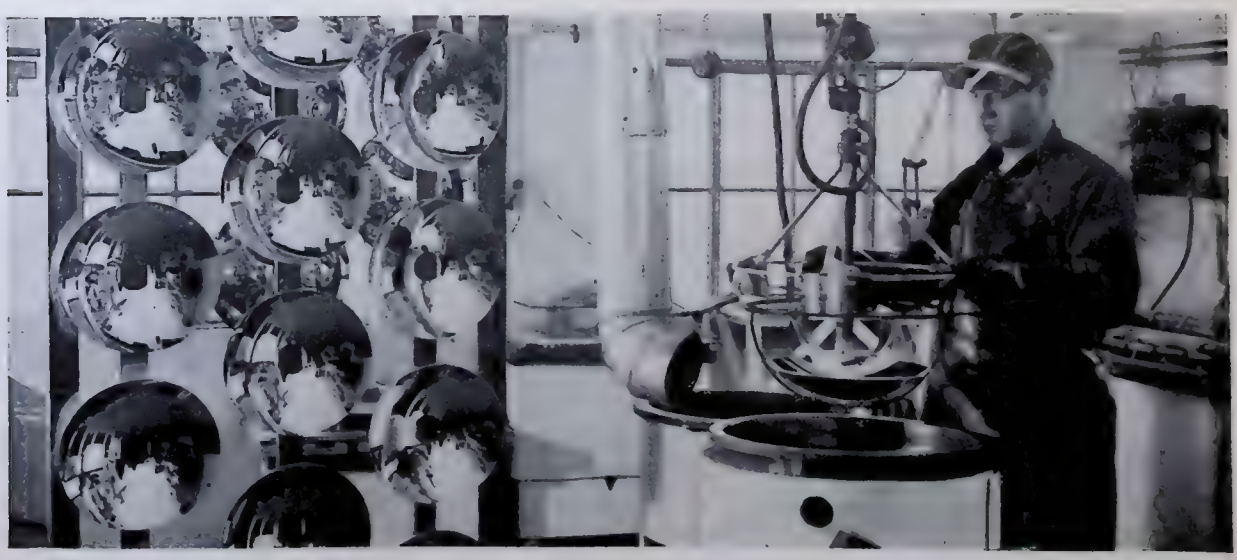
Larger higher intensity carbons were developed, and this was followed with larger projection arc lamps that used correspondingly larger reflectors. These developments helped solve the screen illumination problem, but had added to breakage and general deterioration of the back-silvered reflector. It was soon evident that somehow more light must be had with a metal reflector. Here again the makers of metal reflectors came forward and introduced their new aluminized metal reflector. It was the answer to the drive-in reflector problem. It was not only dependable and economical, but it delivered top screen light as well. In addition to the job it is now doing for the drive-in, the aluminized metal reflector is fast becoming a 3-D must.

Extensive research had shown that the only available reflective material which would be practical on a front surface reflector, and that would have more reflectivity than rhodium, was aluminum. Standard methods of aluminizing had to be somewhat revised, to suit this particular application, and thereby able to withstand the damaging effects of these new high intensity arcs.

On the basis of carefully conducted laboratory and field tests, this new aluminized metal reflector has 15 per cent more reflectivity than its counterpart, the standard rhodium metal reflector, and three per cent more delivered screen light than a selected back-silvered reflector.

To sum up this new development in the reflector field, it is sufficient to say that the aluminized metal reflector not only guarantees maximum economy and dependability, but also top delivered screen light.

ONE OF THE FINAL STEPS IN the manufacture of metal motion picture reflectors is electroplating rhodium which is the last of the reflective surface finishes. Reflectors, such as those on the rack, have proven themselves to be very acceptable for use in the projection of motion pictures.



Continuous Arc Lamp Operation

Description of a Method of Recarboning Without Interruption of Lamp Operation

By J. P. Latil
President, Genarco, Inc.

BRIEF: *Brighter lamps have a greater consumption of carbons . . . Recarboning has to be done frequently . . . When the interruptions of light resulting from recarboning are undesirable . . . continuous feeding becomes necessary.*

This article describes a method of operating a very bright carbon arc with positive carbons and joined by a magazine mechanism . . . The negative carbons can also be fed and joined by the same process . . . or replaced by a negative disk which rotates slowly . . . These methods have been applied by the author inu the construction of arc lamps that operate for several hours without interruption.

BRIGHT ARC MEANS HIGH CARBON CONSUMPTION

Two years ago we decided to develop a carbon arc lamp that would be brighter and more powerful than any arc lamp existing on the market.. In a carbon arc lamp the source of light is the tip of the positive carbon: to increase its brightness, the density of the current in the carbon must be increased, that is, the ratio of the current (Amperes) to the area of the section of the positive carbon.

When, in a given carbon, the current is increased, the density of current is raised and the brightness becomes greater. But, if the density becomes too great, the arc becomes noisy and unsteady, the positive carbon sputters and the lamp becomes unsuitable for projection.

We were able to make a steady arc lamp, with a current of 200 amperes in an 11 millimeter diameter positive carbon: then, the density of current was 2.1 amperes per square mm and the brightness greater than 1600 candles per square millimeter.

A very bright arc lamp has a very high positive carbon consumption. Theatre operators are familiar with this dilemma: they are asked to increase the brightness of the projection in order to satisfy the requirements of 3-D and extra-wide screen projection; and they find that this increases the consumption of carbons to such an extent that the operation between two "recarbonings" becomes too short.

In Figure 1 we show how the consumption of the positive carbon increases with the current in the very bright arc lamp, Model P.1. This lamp has water-cooled positive contacts, 11 mm. diameter positive carbons.

At 200 amperes the consumption is 45 inches per hour. A standard length of 22 inches is consumed in less than a half-hour. The necessity of recarboning every half-hour means that this arc lamp would scarcely be suitable for operation in a projection lamp, a spotlight, or a searchlight. Therefore, we had to find method that would assure a *continuous* supply of carbons to the arc without interruption for recarboning.

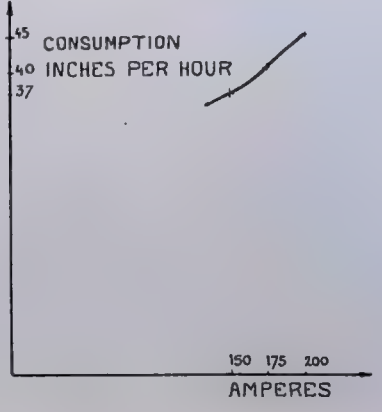
Joined Carbons for Continuous Feeding

Several methods to achieve this end have been imagined since the invention of the arc. They all apply the same principle: a positive carbon "A" partially consumed is joined with a new carbon "B", either with cement, or with glue, or by a metallic sleeve. The ends of the carbons are properly shaped to assure the best possible adherence between the surfaces of the joined carbons.

Some of these methods have been used for years and they have given satisfactory results to operators who use them mostly to save the stubs of carbons that would be too short for the lamp mechanism.

But an arc lamp with a high density of current is very sensitive to the introduction of cement, glue or metallic sleeves in the arc. These foreign matters create a perturbance of the flames and an unsteadiness which result in unacceptable brightness variations of the lamp. Therefore, it was necessary to join the carbons without introducing foreign matter but solely through a characteristic shaping of the carbons themselves.

Fig. 1—In a high intensity carbon arc lamp with water-cooled positive jaws, the consumption of the positive carbon measured in inches per hour increases steeply with the current.



Mechanical Requirements of the Joint

The joint has to be tight enough to prevent the carbons from coming apart after they have been joined. This means that the carbons cannot be drawn apart easily when pulled in opposite directions, as shown on Figure 2a, and also that one of the carbons cannot rotate and slip into the other when one is submitted to a twisting force while the other is held firmly in place (Fig. 2b).

In the arc lamp the positive carbon "A" is held by the upper and lower positive contacts. The contacts cool the carbon and carry the current to the carbon tip; they offer a resistance to the rotation of carbon "A." This resisting torque can be measured and adjusted by setting the pressure of the upper contact on carbon "A." Carbon "B" is rotated by a rotating mechanism (not shown on figure). If the joint between the carbons is not tight, there is slippage of carbon "B" into carbon "A" which will not rotate. This will prevent the smooth operation of the lamp.

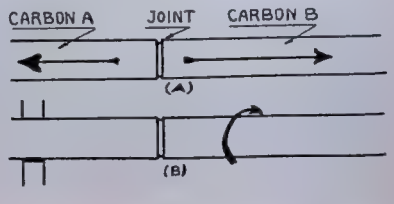
We have developed a method of joining the carbons that has been successfully applied on thousands of joined carbons. The principle is extremely simple: the ends of the carbons to be joined are machined in the shape of a male and female taper and the ends are pressed into each other.

The machining of the carbons is a delicate operation. The carbons are hard, brittle and unhomogeneous. They are made up of a shell (outside surface) and a core. The shell is a homogeneous-looking matter that is made of fine carbon. The core is powdery and contains rare metals compound.

The machining must be done in the shell region and it requires a lot of care and experience.

When the carbons are machined into their final shape, they can be joined either by pressure or by percussion. Once joined, they should not be forced apart because successive joining and separating operations change the physical dimensions of the ends and the nature of the surfaces which become slippery. When two carbons are joined, the tightness of the joint can be measured; the torque

Fig. 2—Joined carbons must resist traction (A) and torque (B) illustrated in simplified sketch.



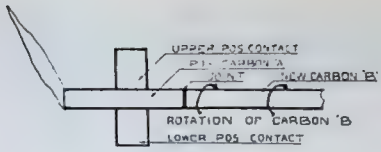


Fig. 3—A good joint must be tight enough in order that the resisting torque of the positive contacts on carbon "A" be smaller than the torque necessary to have carbon "B" slip into carbon "A."

necessary to have carbon "B" rotate by slippage into carbon "A" (Fig. 2b) should be greater than the resisting torque offered by the positive contacts to the rotation of carbon "A" (Fig. 3).

Physical Requirements of the Joints

It is also necessary that there be no interruption between the core and shell of carbon "A" and the core and shell

Fig. 4—Two machined carbons ready to be pressed into each other are shown below.

of carbon "B." Figure 5 shows a tight joint. The carbons move in the direction of the arrow. The tapered surfaces of both carbons apply closely against each other. Between the shoulder "S" of carbon "A" and the end "E" of carbon "B" (both in shell material) the distance must be very small. Between the bottom "b" of carbon "B" and the tip "t" of carbon "A" there is also a gap which should be as small as possible. If these two gaps could be reduced to zero, the quality of the joint would be perfect.

When the rod thus formed by the joining of the two carbons progresses towards the arc, carbon "A" is first consumed, then both carbons are consumed simultaneously for a short period, fol-

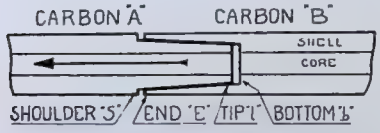


Fig. 5 — Section of the two joined carbons.

lowed by the consumption of carbon "B" alone. Figure 6 shows these situations. The two carbons move in the direction of the arrow.

Situation 1) shows the crater entirely in carbon "A."

Situation 2) shows the crater partially in carbon "A" and partially in carbon "B."

Situation 3) shows the crater in carbon "B" only.

The transition from one carbon to the next is a continuous process which lasts one minute. When the carbons are well machined and when the gaps (Fig. 5) are 1/64 inch or less, it is impossible to detect that one carbon has been replaced by another.

Continuous Feeding of Negative Carbons

The consumption of negative carbon is much smaller than that of the positive carbon. It is generally possible to operate

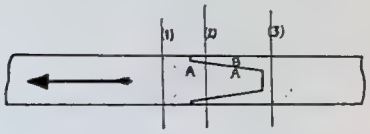


Fig. 6—Location of crater of positive carbon when two joined carbons A and B move toward arc.

a very bright arc lamp for a period of one hour and a half without recarboning the negative carbon. However, if continuous operation is desired for several hours, continuous recharboning is required.

The arcing point, on the disk, is located on the line which joins the center "O" of the disk to the center "C" of the tip of the positive carbon. The disk revolves slowly, making one revolution every three minutes. Each revolution reduces the radius of the disk by 2/1000 inch to 4/1000 inch, depending on the current, and the disk keeps its true circular shape. A mechanism moves the center "O" slowly towards "C," in order to keep a constant gap between the arcing point and the positive carbon. With a current of 200 amperes, an eight inch diameter disk can last several hours before having to be replaced.

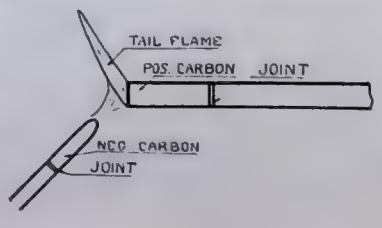
Magazine Mechanisms

Mechanisms have been devised to feed the carbons from a magazine and join them automatically. The mechanism must operate very smoothly because the carbons are fragile, especially when they have been machined.

We have built several types of mechanisms which feed the arc lamp with positive carbons and join them automatically. They assure an automatic continuous operation of the lamp.

Figure 9 is a simplified diagram of an arc lamp in operation with a joining mechanism. Carbon "A" has one end in the arc and is being consumed. It slides between the positive contacts and it is fed into the arc by the action of the feed rollers "R." The tip "t" of carbon "A" is in position (1) in Fig. 9. A few

Fig. 7—This is an artist's conception of an arc in which both electrodes comprise joined arcs.



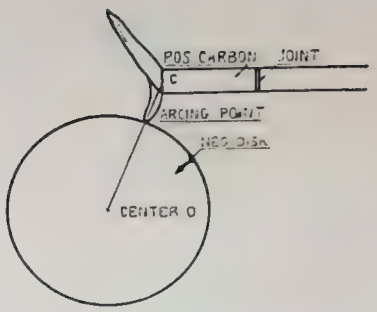


Fig. 8—View of an arc in which the positive electrode is made with joined carbons and the negative electrode with a graphite disk.

seconds later, it will reach position (2). At that moment carbons "B," "C" and "D" will be pushed vertically upward under spring action. Each of the carbons will occupy the position that the preceding one occupied before the "push." As soon as carbon "B" has reached the position where it is in line with carbon "A," a pusher thrusts carbon "B" toward carbon "A" and joins them together (joining action). A precise pressure must be applied on the joined carbons to assure a tight joint.

A few minutes later the joint reaches the arc. Thereafter carbon "B" is consumed alone. When the tip of its end reaches position (2), carbon "C" is pushed vertically upward and the same cycle is repeated.

Applications of the Automatic Continuous Operation

Several applications for automatic continuous operation have been made in arc lamps which must operate for several hours without interruption or which are located in spots which the operator can-

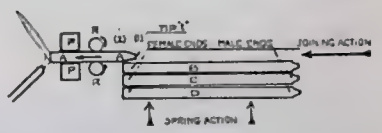


Fig. 9—Schematic view of a feeding and joining magazine mechanism arc lamp.

not reach during the operation. This is the case with searchlights used by the Armed Forces. Figure 10 shows a 200 amperes arc lamp with automatic continuous operation.

The mechanism which assure the feeding and the joining of the carbons is built in these arc lamps and is not an additional piece of equipment attached to a standard arc lamp. The mechanism is simple and contains several features for which patents have been applied. It has not been used for projection lamps yet, although it is expected that the use of 3-D films and very large screens will induce the theatres to use more powerful projection lamps and therefore to use mechanisms which will assure longer operation without recarboning.

Projection Room Safety Requirements*

Proper Safety Procedures For Theatre Projection Rooms Are Necessary to Keep the Danger of Fire to a Minimum

By Col. Samuel R. Todd

Since the first "Nickelodeon" opened its doors to the public for presentation of motion pictures, the greatest safety hazard, as is well known, has been the fire and panic danger inherent in the ever-present possibility of accidental ignition of the thousands of feet of cellulose nitrate film located in the projection room. This continuing hazardous condition over the years has changed recently to a considerable degree, due to the gradual replacement of nitrate film by so-called "safety" cellulose acetate film. However, as long as 35mm film remains standard for the projection

BRIEF: *Nitrate film has imposed special requirements on projection room design for many years . . . The advent of 35mm safety film may change some of these . . . and this possibility is fully explored in this article . . . However, as long as nitrate film is in use . . . projection rooms must be constructed and equipped in such a manner as to hold the probability of fire breaking out to a bare minimum . . . It is commonly known that even the hint of fire in a theatre may cause a panic which may result in disaster . . . and weaken the public's faith in the safety of motion picture theatres.*

A new problem in safety for projection rooms has arisen with the use of large screen theatre television equipment . . . Each of the two types of theatre TV equipment now in use . . . direct projection and the film method of projection . . . entail safety problems peculiar to themselves . . . and are given individual attention.

of motion pictures in theatres, most safety authorities, many theatre owners, and those theatre designers who are intimately conversant with the numerous details involved in the proper design and construction of modern projection rooms for maximum safety and best operating features, feel that any changes in the specifications now considered as standard are both unwarranted and undesirable. If we assume, and it is a fair supposition, that a fireproof type of construction for theatres will continue to be demanded by local governmental authorities, it seems hardly possible that non-fireproof type of construction for projection rooms would be advocated.

PROJECTION ROOM CONSTRUCTION

Let us consider, item by item, some of the real reasons for the present type of enclosure for the projection, sound, and accessory equipment in the modern theatre projection room. To isolate from the auditorium unavoidable noises such as those due to the operation of the equipment, and due to conversation necessary from time to time, a substantial enclosure is certainly needed,

The physical strength alone required to safely support the weight of the necessary equipment, and to allow for additional weight of four, or more, persons who may be in the room at one time, calls for the specification of a heavy reinforced concrete floor constructed according to the recommendations of a qualified structural engineer. Also, and for more similar reasons, the four walls of the room should be designed to assure structural security and adequate fire protection, as well as the physical strength required to support electrical raceways and heavy equipment items which may be mounted on these walls.

From long experience in projection room design, it seems advisable to call for a ceiling not less than nine feet above the projection room floor level, and of structurally strong and fireproof construction. Costly films, sound and projection systems need protection from theft and from fire hazard elsewhere in the theatre, as well as vice-versa. Solid, fireproof enclosures with approved fireproof doors equipped with trustworthy locks, are thus well justified, whether or not the films used introduce any special fire hazard.

Fire in the Projection Room

In the event a fire does occur in the projection room, it is instantly and imperatively necessary to completely isolate the room from the auditorium, in order to prevent possible panic. Panic kills more people in theatres than actual fires. Projection and observation port openings must be equipped with gravity-operated, automatically controlled, approved steel fire shutters actuated by a master control cord and by 160 degree fusible links, located immediately above and within six-inches of the upper magazine of each projection machine. In the event of a projection room fire, it is necessary to exhaust promptly all smoke

FIRE AND THE FEAR of fire are among the greatest perils that face a motion picture theatre. The terrible scene pictured offers mute testimony to the horror that can strike a theatre if proper safety measures are not taken. Projection booths offer one of the greatest sources of danger from fire, and to ignore taking the necessary precautions, and supplying the proper equipment can be a prelude to disaster.

*Reprint of a paper presented May 3, 1951 at the Society of Motion Picture and Television Engineers convention in New York, and published in the Journal of S.M.P.T.E., September, 1952.

A PROPERLY equipped projection booth and a calm projectionist, are the ingredients that keep fire and disaster risks in theatres to a minimum.

and odors to the outside air. This may be accomplished by means of an adequate forced-draft ventilating system; this system may also serve to exhaust normally, the gases and carbon ash from carbon arc enclosures. A natural gravity vent, with adequate cross-sectional area extending through the projection room ceiling directly to the outside air, should also be provided as protection in case of failure of the electricity supply service.

Projection Room Dimensions

Consideration should be given to the dimensions of the projection room in order to provide normal operating safety factors for the projectionist. The room should not be less than 12 feet between front and rear walls, in order to save sufficient working and free walking space around all the equipment. The rewind tables should be located at the rear wall equi-distant from the two projectors. The space between projectors should be 60 inches at the lens centers, and there should be a clear space from the lens centers of 48 inches both to the right of the righthand projector and to the left of the lefthand projector. A modern design for the rewind table includes space beneath the table top for locating approved-type film containers, supported several inches above the floor.

In order to deliver on the screen the high quality performance expected from the projectionist, he must at all times, while on duty, be reasonably calm and alert, both mentally and physically. These considerations, as well as those of common decency, call for providing adequate modern toilet facilities, and a lavatory with both hot and cold running water in well-designed theatre projection rooms.

DIRECT THEATRE TELEVISION

The installation of theatre television equipment has introduced problems not heretofore present in providing motion picture screen presentations. Essentially, the equipment purchased by the theatre owner for such an installation consists of three major items: (a) a high-voltage supply unit weighing 800 pounds and providing 20,000-volt and 80,000-volt output circuits; (b) video control amplifier units mounted on conventional racks and weighing 1200 pounds; and (c) a picture projection unit with its mounting trunnion, weighs 400 pounds. This by no means small extra weight of over a ton, introduces a definite safety hazard to the building structure in many instances. Structural loading factors need to be thoroughly checked before installation of such massive equipment.

Location of Equipment

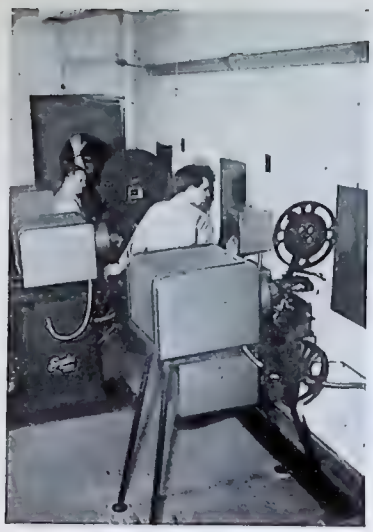
Because of the high potentials produced by the voltage supply unit, it is essential that it be located in a separate fireproof room with the entrance door closed and locked at all time. It is preferable to locate the unit as near as possible to the optical barrel which encloses the picture projection tube, in order to reduce the required length of special 80,000-volt cable which connect to the second anode of the picture tube.

The video amplifier unit is mounted on two racks occupying a floor space 40 inches wide and 18 inches deep, extending a height of 64 inches in the theatre projection room. It contains a television receiver, monitor panel, control panels, low-voltage power supplies, and other miscellaneous operating units. While required projection room space is not large, the room dimensions should provide enough to avoid overcrowding, and consequent reduction in normal operating safety factors.

The proper location of the picture projection tube and optical barrel is very important from the viewpoint of safety to the public, and it is also a very important factor in securing best projection quality. The nominal "throw" from the projection unit to the screen is 60 to 65 feet. In a typical installation, a heavy steel platform was installed for mounting the optical unit. This platform was mounted on the front face of the first balcony rail in such a manner as to preclude any possibility of unauthorized persons having access to, or coming in contact with the projection tube, or any of its high-voltage terminals. In this position, the tube and optical barrel projected a 15 by 20 feet picture on the screen at a "throw" of 62 feet. In theatres having no balconies the projection unit must be supported from the floor or ceiling and, as in the case of balcony support, the mounting structure must be adequately designed to eliminate any possibility of either electrical or mechanical hazards to theatre personnel or audience. The unit should be enclosed in such a manner that any corona or arcing due to dampness is not visible.

Presently available direct projection television equipment is very well designed from the viewpoint of having adequate

THE CAMPUS, Los Angeles, offers a fine example of roomy, well planned, safe projection booth.



LEFT: An uncluttered and easily accessible doorway is a must for a safe projection booth. RIGHT: A TV projection room showing some of the safety features maintained to lessen the danger of fire.

safety disconnect switches at all points where dangerous potentials may be encountered. Switches are provided, for example, at the access door to the high-voltage power supply room, on the enclosure for the picture projection tube, and on various componets of the amplifier and control equipment. It is extremely important that all of these safety circuits be intact at all times. Unauthorized modifications are the height of foolishness where potentials dangerous to life are concerned.

INDIRECT THEATRE TELEVISION

The so-called storage-type system for television theatre projection uses a 35mm motion picture camera to photograph a negative image on a television receiver to produce a direct-positive print. The exposed film is transported continuously to equipment for rapid development and drying. From this equipment it is transported to the projector for immediate projection on the theatre screen. The elapsed time from the television camera pickup at the scene of action, to the time of projection of the completed positive print of the theatre screen, is 61 seconds.

Required Conditions

This method requires a properly ventilated room of fireproof construction for the television receiver, the 35mm picture camera with a magazine which may contain 12,000 feet of unexposed film, and for the developing and drying equipment. This room obviously must be adjacent to the theatre projection room and provision must be made for feeding the completed positive print to the upper fire valve roller of the theatre projector, from which the upper magazine has been removed. This arrangement of equipment will provide a continuous projection of motion pictures on the theatre screen for more than two hours duration.

Safety Hazards

From the viewpoint of safety, the present method used for feeding the processed print to and across the theatre projection room to the projector head on a series of open pulleys, could hardly be considered as complying with the most elementary standards of safe handling of 35mm film.

With the take-up magazine and the take-up device on the projector designed for approximately 2000 feet of film, it is obvious that cutting a film at the end of each 2000 feet will be required. The running end of the film must be quickly attached to the hub of an empty reel, and the excess film on the projection room floor must be spun onto the hub, after which the reel must be placed into position of the take-up spindle of the lower magazine for taking up the succeeding 2000 feet of film. This procedure must be repeated five times during the continuous projection of 12,000 feet of film. Such a procedure does not appear to follow any of the long standing practices for the safe handling of motion picture film.

CONCLUSIONS

This brief review and discussion of present safety requirements in theatre projection rooms is intended to justify the conclusion that practically all of the requirements are in order, regardless of the type of film used. They obviously must not be relaxed in any degree so long as there is a possibility that even small quantities of cellulose nitrate film may reach the theatre, and this possibility may be with us for years to come. Entirely apart from this, however, it has been shown that they lead to improved program presentation, and better general safety conditions for both the public, and the theatre personnel. This is important; twenty years of good engineering design and proven operation practices, have created public confidence in theatre safety. This could be destroyed by a single instance where loss of life was rightfully or wrongfully attributed to a relaxation in the presently accepted standards.

It should be kept constantly in mind that there is no moral defense for anyone who may be responsible for deliberate laxity in the construction and operation of theatre projection rooms, if a fire does occur, and the sordid picture of a disastrous panic is the tragic result. Theatre television equipment, which presents safety hazards of the new types, has been discussed and attention has been called to some of these in the hope that full knowledge will aid in their eventual elimination.

NOTE: In the latest Fire Code of Philadelphia, no mention was made of the need for storing acetate film in the vaults that are now required for nitrocellulose motion picture film. If this step is taken by other cities the expensive vaults in exchanges may disappear.

A VIEW of a typical modern television studio that shows the extent of the special lighting equipment and other production apparatus which may be found and watched to prevent fire hazards.

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RECTIFIER TUBES

ARGON-FILLED RECTIFIER BULBS

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REVALL Rectifier Bulbs offer the ultimate in efficiency for standard projection — solves rectifier problems in 3-D and Wide Screen systems.

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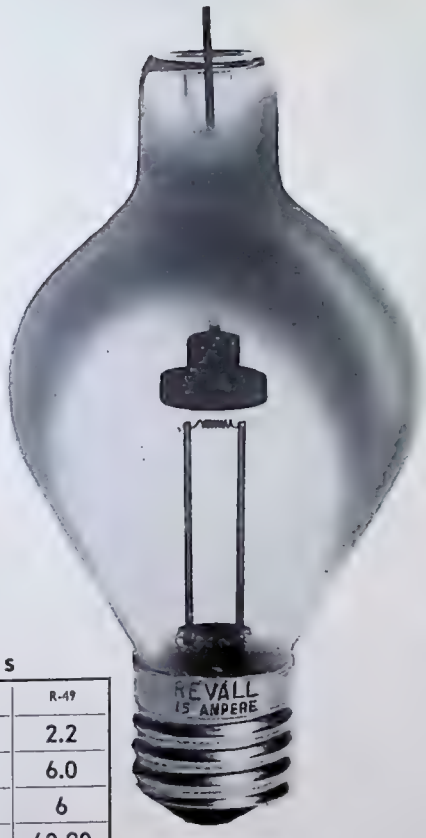

R-12
15 AMP

R-49
6 AMP

SPECIFICATIONS

BULB No.	R-21	R-12	R-49
FILAMENT VOLTS	2.0	2.5	2.2
FILAMENT AMPS	2.0	15	6.0
DC AMP OUTPUT	2	15	6
NOM. DC VOLTAGE	75	60	60-90
PEAK INVERSE VOLTAGE	275	285	375

QUALITY • EFFICIENCY • ECONOMY

REVALL Rectifier Bulbs are tough, triply-tested and scientifically built for long life and dependability. Available in 2 amps, 6 amps, and 15 amps, these gauaranteed bulbs are ***designed for theatre needs*** and ***proved in theatre use.*** Reduce your replacement costs and provide steady, flickerless light with the finest rectifiers built.

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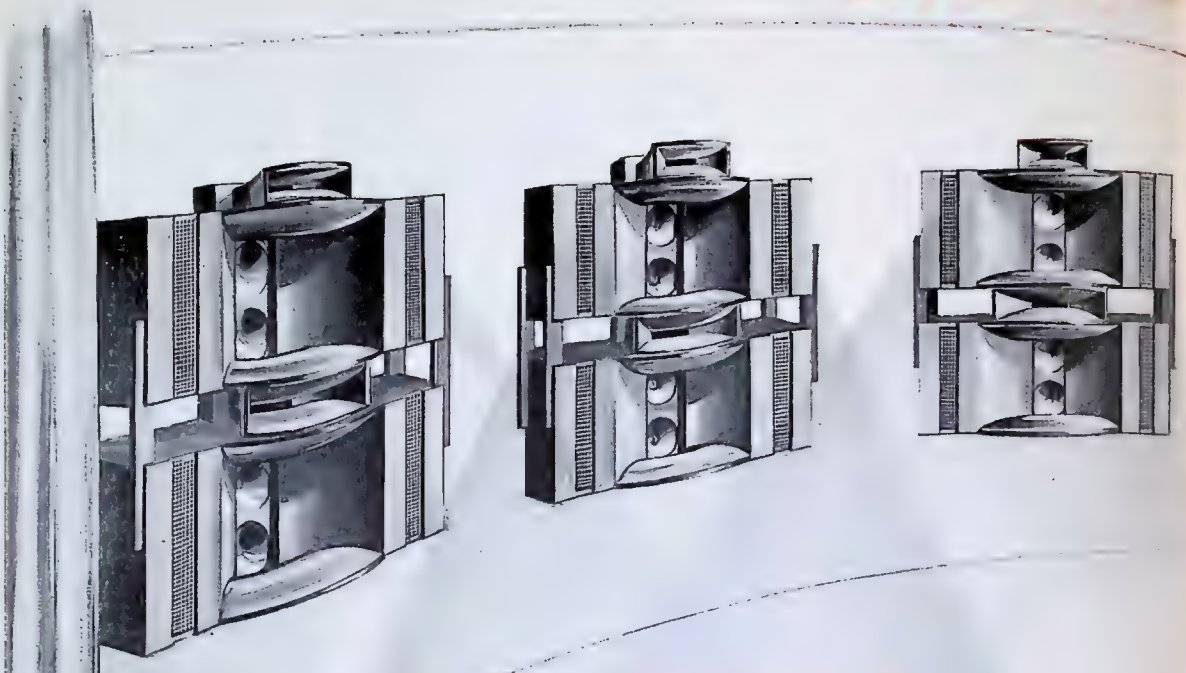

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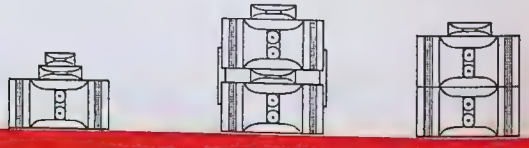
REALISM

...in every seat in the house...

AVAILABLE IN ANY COMBINATION



new Stereophonic Sound

...featuring RCA's revolutionary new SPEAKERS

Here's a brand-new thrill in sound. It's a new idea that fills your theatre—surrounds every seat in your house—with *true, living,* sound. It's RCA's NEW STEREOPHONIC SOUND—the new achievement in BRILLIANCE, BALANCE, and REALISM.

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NEVER BEFORE have you heard such complete realism in sound. Never before has sound equipment been so thoroughly matched to the theatre man's needs.

FOR EARLY DELIVERY—ORDER NOW. For assurance of early delivery, contact your RCA Theatre Supply Dealer now. Nationwide acceptance of RCA Stereophonic Sound is now resulting in a heavy demand from circuits and independent theatres alike. It will pay you to see your RCA Dealer at the earliest possible minute.

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ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.
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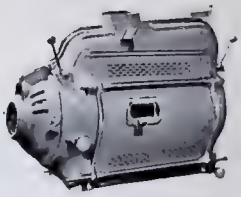
Strong PROJECTION LIGHTING EQUIPMENT

The Lamps that are
SCREEN-ENGINEERED

Screen sizes are not determined on the basis of the lamps which are to be installed. Rather, lamps are selected on the basis of the prevailing or desired screen size as determined by the size of the theatre.

That's why Strong, the world's largest manufacturer of projection arc lamps, has designed a full range of lamps, a line which includes lamps to exactly and most economically fill the light requirements for screens of all sizes. As the only lamps produced complete within one factory, Strong lamps can be engineered to obtain the highest efficiencies ever attained. That's why theatres buy more Strong-made lamps than any other make. They are your guarantee of getting the brightest pictures at the lowest cost. Remember, there's ONE right lamp for every theatre. You tell us the size of your screen, and we'll tell you the lamp you should use.



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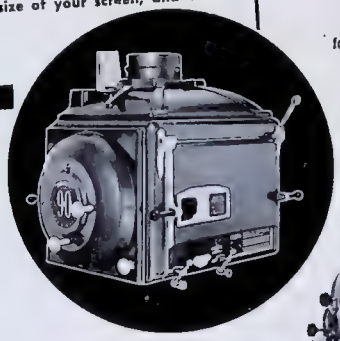
45-70 Ampere
High Intensity
for screen widths up to 24 feet.



The New Strong
90,000-8 (3-D) PROJECTION ARC LAMP

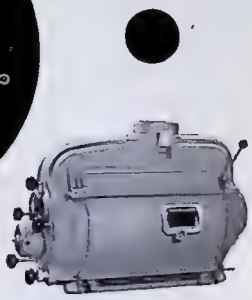
Strong-made Lamps Are the Only Lamps That Have Been Designed to Meet All of the Requirements of All 3-D Projection Systems.

*Accommodate a 20-inch trim of carbons which will burn continuously for the full hour as required by the new 5,000-foot reels, at 78 amperes (using 9mm positive and $\frac{5}{16}$" negative) or at 95 amperes (using 10mm positive and $\frac{11}{32}$" negative.)

*Project the tremendously increased volume of light required because of the increased screen size, the 50% light loss at the screen resulting from the use of polaroid filters, and the further loss to the viewer occasioned by the use of polaroid spectacles.

*Automatically, without manual adjustment, maintain a screen light that in intensity and color value is constant and identical to that of the associated lamp which is burning simultaneously. The position of the positive arc crater is automatically maintained at the exact focal point of the reflector by means of the exclusive Lightronic crater-positioning system. The positive and negative carbons are advanced by separate motors, the speeds of which are governed by the Bi-metal Lightronic Tube.

The optical system comprises an elliptical reflector 16½" in diameter with a resultant speed of f1.9 to match the currently available high-speed f1.9 projection lens

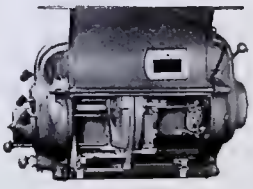


UTILITY
46 Ampere
High Intensity
for screen widths up to 20 feet.

THE STRONG MIGHTY "90"
75 to 130 Ampere Reflector-Type
PROJECTION ARC LAMP
for screen widths more than 24 feet.

Delivers the most light that can be projected to any screen, REGARDLESS OF HOW LARGE, and AT FAR LESS COST than other types of big lamps! No other lamp can outperform it. Exclusive Lightronic automatic-focus control. Forced-air-cooled feed mechanism. Air-stream arc stabilization.

Be sure that the lamps you buy maintain full light output regardless of the length of the positive carbon, that they have the new, fully automatic, arc-crater positioning feature, that hand feeding is not necessary to maintain full screen brightness, and that the advertised lumen output has been measured by the methods approved by the Screen Brightness Committee of SMPTE.



UTILITY
One-Kilowatt 40 Ampere
High Intensity
for screen widths up to 18 feet.

When the lamps are **STRONG** *the picture is bright!*

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Strong PROJECTION LIGHTING EQUIPMENT

STRONG RECTIFIERS

The only rectifiers especially designed, manufactured and tested in one plant together with and for use with motion-picture projection arc lamps. This is highly important, as efficient operation of each type and rating of arc necessitates a rectifier specifically engineered to its particular requirements.

There is a dependable Strong Rectifier for every type of projection lamp: 2-Tube — 4-Tube — 6-Tube Single and Three-Phase Models for, *Rotating Feed Angular Trim High Intensity *Copper Coated Coaxial High Intensity *1 K.W. High Intensity *Low Intensity . All assure smooth output current, long life, low operating temperature, and flexibility in control.

The New Strong 95008 (3-D)

RECTIFIER FOR 3-D PROJECTION

Power-supply equipment designed to operate only one lamp on 20-minute cycles with 5-minute changeover periods cannot be used where two projectors and two arc lamps are running simultaneously and for extended periods of time.

The new 95008 (3-D) has been especially designed to meet the demands of these new conditions. This 75-85 ampere, 3-phase, 220-volt, tube-type rectifier embodies automatic fan-air cooling for efficient operation with the new Strong 90,000-8 (3-D) Projection Arc Lamps. Transformer taps provide adjustment to compensate for supply-voltage variations through a range of 10% above or 10% below the rated A.C. input voltage throughout the output rating range.

STRONG REFLECTORS

Since the only light which can reach the screen must be reflected by the mirror, the loss in screen light during the gradual deterioration of a reflector is in direct proportion to the loss in mirror efficiency. Light losses through the use of worn-out reflectors, even amounting to several hundred dollars a year, are not unusual. Endeavoring to make up this light loss through the use of more current similarly represents a pure waste in the form of unwarranted power bills, all of which makes the cost of periodic mirror replacement a good investment. Strong precision reflectors, in a variety of types and sizes for use in all standard projector arc lamps, have long been recognized as a dependable standard of quality.

The New Strong
Universal High-Intensity A.C.
ARC SLIDE PROJECTOR

The motor-driven arc projects brilliant, large-screen pictures continuously for 80 minutes without retrimming. Comes complete with blower, slide carrier, power transformer, and arc lamphouse, with motor-fed carbons. Model No. 44000 projects 3¼" x 4" slides. Simple adaptations permit the projection of 2" x 2" or 4" x 5" slides. Lenses for other than customary installations are available.

STRONG SPOTLIGHTS
Add Sparkle
To Any Performance

The only spotlights affording all these advantages: An abundance of really bright, quiet, flickerless light. A sharp edge from head spot to flood. Require no heavy rotating equipment. Simply plug into 110-volt outlet. Ready portability. Mounted on casters. Easily disassembled for shipping. Two-element, variable-focal-length, objective lens system. Silvered glass reflector. Horizontal masking control can be angled 45 degrees in each direction. Fast-operating, 6-slide color boomerang.

TROUPER HIGH INTENSITY ARC SPOTLIGHT
for large theatres, arenas and auditoriums. Adjustable, self-regulating transformer in base. Automatic arc control. A trim of carbons burns 80 minutes.

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for small theatres. Projects 6½ times brighter head spots than any other incandescent spotlight. Utilizes all the light through most of the spot sizes as contrasted to spotlights which vary spot size solely by irising, thus losing substantial light.

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NATIONAL EXCELITE

75-130 AMPERE, HIGH-INTENSITY, REFLECTOR-TYPE

PROJECTION ARC LAMPS

A really BIG lamp—designed especially to deliver the abundant screen light necessary in large theatres and drive-ins with mammoth-size screens.

Selected by CINERAMA after exhaustive comparative tests of leading arc lamps because they maintain constant light intensity and constant color temperatures without the need of manual adjustments.

ANYONE CAN SEE THE DIFFERENCE!

- Automatic arc crater positioning.
- Air-cooled rotating positive carbon feeding mechanism.
- Big 16½" reflector matches high-speed f/1.9 lens.

Your theatre too, needs EXCELITES with their exclusive features. See your National Theatre Supply branch now.

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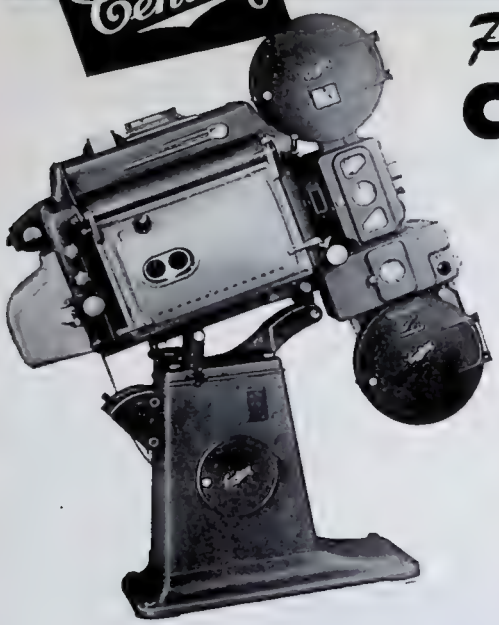
PROJECTION AND SOUND SYSTEMS



Pick a feature-any feature
CENTURY HAS IT

CENTURY has more *desirable* features than any other equipment. You will find no "gadget improvements" on CENTURY equipment—everything is scientifically arrived at—to give you *full dimensional* reproduction of picture and sound, with trouble-free operation.

HIGH EFFICIENCY MECHANISMS. CENTURY projectors require almost no maintenance. They contain fewer parts (10 gears where others require up to 23) in simple arrangement so that stress and wear are at a minimum. Fewer gears and shafts mean less trouble, lower maintenance, less vibration, sharper pictures . . . finer projection.

CLEAN, TROUBLE-FREE OPERATION. CENTURY has reduced lubrication headaches. There are no oil sprays or oil baths to mess up film and projection room. Oil-less bearings and glass-hard steel gears rule out bindups.

MAXIMUM LIGHT PROJECTION. CENTURY design fully utilizes the advantage gained from the use of highpower arc lamps and high speed lenses.

WATER-COOLED PROJECTOR APERTURE. An exclusive CENTURY development which is optional equipment on all CENTURY projectors. It increases screen illumination and reduces film distortion and focusing trouble.

Century 3-D EQUIPMENT

CENTURY: Builders of Cinerama, also manufacturers of 3-D projection systems. The CENTURY 3-D interlock may be used on any type projector—installation is extremely simple. There is no need to disturb the location of existing equipment, there are no hazardous exposed shafts, gears or chains and there is no maintenance problem. The CENTURY interlock can be quickly engaged or disengaged for 3-dimensional or 2-dimensional presentations.

CENTURY Polarizing Filters for 3-D projection are encased in a protective metal holder and treated with an anti-static coating. They are clearly marked for correct placement in the booth portholes.

Century ENGINEERED SOUND SYSTEMS

are designed to meet your needs—present and future. They give you the best that modern science can offer.

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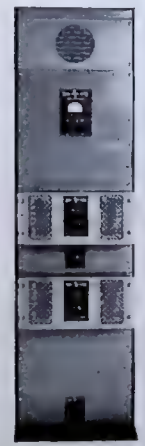
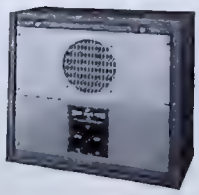
SIMPLIFIED OPTICAL SYSTEM. CENTURY sound reproducers employ a high-efficiency straight-through optical system. No mirrors or prisms to fog or tarnish. Amplification requirements and noise interference are reduced.

MECHANICAL ADVANTAGES. Quick threading; oil-less bearings; interchangeable unit construction, simplified service; standardized design for use with any standard make of projector or pedestal.

STEREOPHONIC SOUND. CENTURY'S technical resources give you the best in stereophonic sound systems—magnetic sound reproducers plus many new features explains why leading theatres are now installing CENTURY stereophonic sound.



CENTURY W5 Amplification System — 200 — 400 watts (Duo power Amplifiers Rack Mounted



CENTURY W3 Amplification System with A.C. Exciter Supply

CENTURY W5 Amplification System with D.C. Exciter Supply

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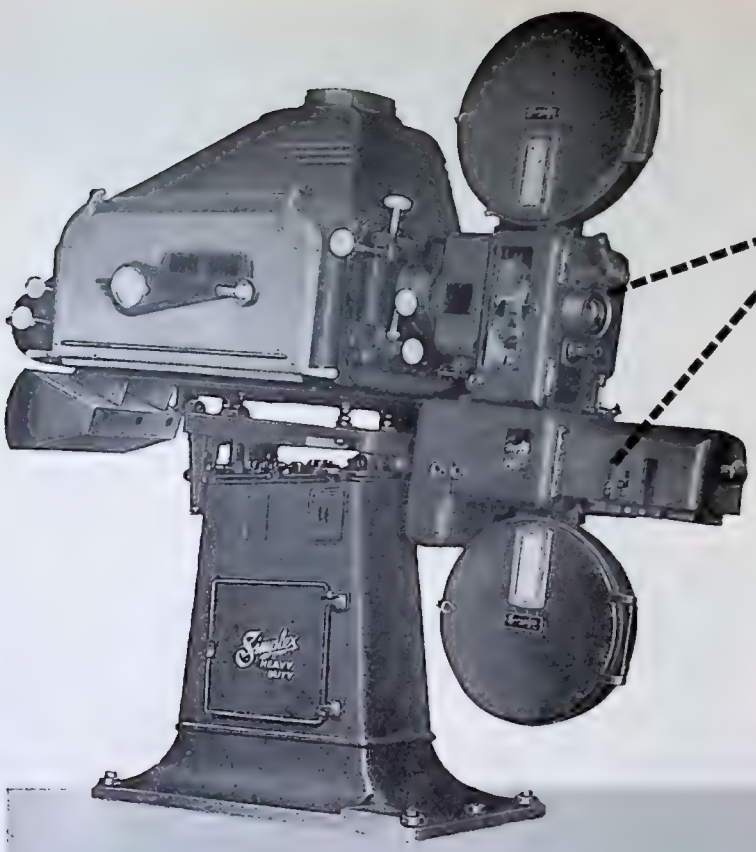

X-L marks the spot!

Simplex X-L PROJECTOR MECHANISM

Chosen for every important first run, to project all the thrilling brilliance, sharp detail and magnificent color only Simplex X-L can deliver. Indoor or drive-in, 2-D or 3-D, there is no finer projection system available. For year-in, year-out, trouble-free investment, you can't do better than Simplex X-L!

Simplex X-L SOUND SYSTEMS

You can be sure every 'sound' on the film sound track will come forth, clear and full, just as they were intended to, when your theatre is equipped with Simplex X-L Sound. Design, years ahead engineering and Simplex experience make the difference — *hear the difference*, and see if you don't agree!

MANUFACTURED BY INTERNATIONAL PROJECTOR CORPORATION, BLOOMFIELD, N. J.

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EVERYTHING FOR EVERY THEATRE NEED

THE

Most Highly Regarded

SIGHT AND SOUND EQUIPMENT IN THE WORLD

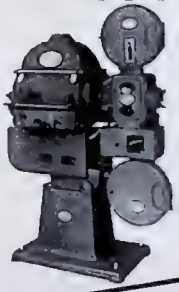
MOTIOGRAPH

Faithful Performance for 57 Years makes them the choice of discriminating projectionists.

Proof that High Quality Equipment Can Be Produced at the Same Price or for Less than the Ordinary.

You'll be glad for years when you buy wonderfully dependable Motiograph equipment.

MOTIOGRAPH PROJECTORS



For a rock-steady, clearly defined picture with maximum screen illumination and without flicker.

All gears run on lubricated-for-life, double-row ball bearings, assuring smooth, quiet performance. A separate blower, available for use with high amperage arcs, cools aperture and film without causing the twenty per cent loss in light which results from the use of a glass filter.

MOTIOGRAPH 3-D INTERLOCK EQUIPMENT

for any make or model sound reproducing system.

MOTIOGRAPH 25"-DIAMETER UPPER & LOWER MAGAZINES FOR 3-D PROJECTION

to fit any make or model of projector and sound reproducer. Larger Diameter. Sturdier. Wider.

MOTIOGRAPH CONTINUOUS DUTY 3-D GENERATORS

designed particularly for interlock projection systems. Completely silent.

85-AMPERE MODEL 3D-85

for operation of one suprex arc using a 7 x 8mm trim in the 60 to 70-ampere range, or an 8 x 9 mm trim in the 65 to 75 ampere range. Arc voltage 36 to 45. Powered by 10 H.P. motor operating on 208-220 or 440 volts.

115-AMPERE MODEL 3D-115

for operation of one arc using uncoated 9mm, 10mm, or 11mm positive carbons at 75 to 115 amperes. Arc voltage 55 to 65. Powered by 15-H.P. motor operating on 208-220, 440 or 550 volts.

MOTIOGRAPH IN-CAR SPEAKERS

Rugged construction—exceptional tone quality. Unaffected by extreme weather. Light weight. Sleek beauty.

MOTIOGRAPH—*trad* THEATRE TELEVISION

Bright, clear, full-screen pictures up to 24 feet wide at any throw, up to 100 feet. The only dual system. Both optical assemblies and power supplies are combined in a handsome, compact, light-weight cabinet which can be located at the rear of the auditorium or front of the balcony. It is unnecessary to relocate any booth equipment to accommodate the small control panel and combination tuner and monitor. Installation costs ⅓ to ½ that of other systems. Easily operated by your projectionist. Installation supervision and regular inspection and service by Altec Service Corporation and necessary parts, cost free for one year. Only $8,950 (⅓ to ½ the cost of others).

MOTIOGRAPH SOUND SYSTEMS

The best-balanced, most-complete tonal range—a guarantee of life-like reproduction, delicate shadings of voice, musical qualities never before approached, uniform sound level throughout the theatre.

14 models for indoor theatres from 500 to 5,000 seats and drive-ins from 200 to 1,000 cars or larger.

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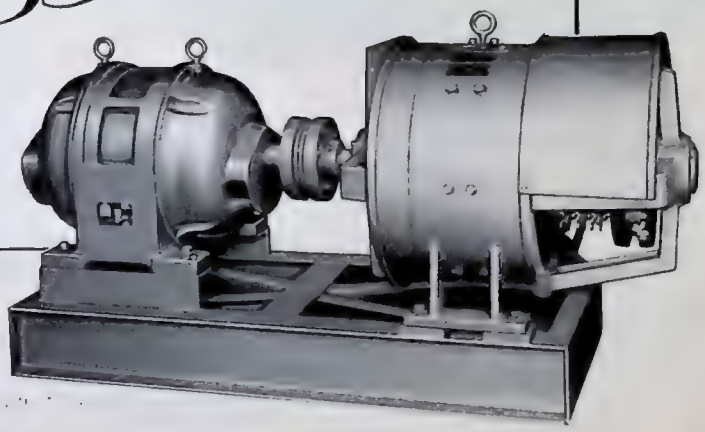
A HERTNER TransVerteR

FILLS THE BILL IN MEETING ALL POWER REQUIREMENTS FOR . . .

3-D PROJECTION



Exhibitors everywhere are finding out that they are faced with new problems when 3-D equipment is installed. One of the chief obstacles is getting increased amperage and additional screen illumination to meet the basic needs of 3-D projection.

Loss of light through use of filters plus giant screen sizes makes existing projection equipment inadequate to do the job.

Manufacturers have increased carbon-arc amperage and voltage requirements up to 50% for 3-D projection, hence additional power is mandatory.

Fortunate are theatre operators, for Hertner has tried and proven motor generator units that more than meet the maximum power requirements of 3-D projection. One of these is the "CP" TransVerter that has been widely accepted for use in large theatres and drive-in theatres.

Distributed by **NATIONAL THEATRE SUPPLY**
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THE HERTNER ELECTRIC COMPANY
12690 ELMWOOD AVENUE . . . CLEVELAND 11, OHIO
A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR GENERATORS • GENERATOR SETS

In addition to the "CP" TransVerter Hertner manufactures five other types of TransVerters for theatres of all sizes.

THE TRANSVERTER LINE INCLUDES:
TYPE "LV" for Simplex HIGH 1 KW Arcs.
TYPE "HI" for Suprex Type Arcs.
TYPE "HIH" for Suprex and Spot Arcs.
TYPE "HS" for 50-63 Volt High Intensity and Spot Arcs (for National Excelite 55,000 type lamp).
TYPE "MA" for 50-70 Volt Low and High Intensity Arcs.
TYPE "CP" for 60-75 Volt High Intensity Arcs.

CHECK THESE TRANSVERTER FEATURES
Velvet-smooth power — no AC ripple.
Cool, quiet performance.
Safe, slow operating speed.
Economical, long-life, trouble-free operation.
Modernized, compact, horizontal design.
Proved experience since 1901.
Sealed-for-life ball bearings.
Designed for specific power supply of each installation.
Easily adjusted ballast rheostats.

"ROBIN-ESCO Super-power"

Modern . . .

Dependable . . .

Unfaltering . . .

"PROJECTION ARC"
MOTOR GENERATOR SETS

The Robin-Esco "SUPER-POWER" Motor Generator, especially engineered and built for motion picture projection, is the ultimate in modern power-conversion equipment. The new 3-D unit supplies power for TWO projection lamps on a continuous basis.

Theatres and Drive-Ins recognize the quality and performance of "Super-Power" as the dependable, unfaltering power source necessary to meet modern projection practices.

J·E·ROBIN, INC. ★ MARK OF QUALITY ★

And also . . . The "ROBIN-ARC" SELENIUM RECTIFIER

Standard 3-Phase Model available for immediate delivery. Guaranteed efficiency, long life and economical, trouble-free operation.

Distributed through Ind. Theatre Supply Dealers—Write for Information and Literature.

Robin-Esco "Super-power" M-G Sets are built by Electric Specialty Co., Stamford, Conn. exclusively for

J. E. ROBIN, INC • 267 RHODE ISLAND AVENUE EAST ORANGE, NEW JERSEY

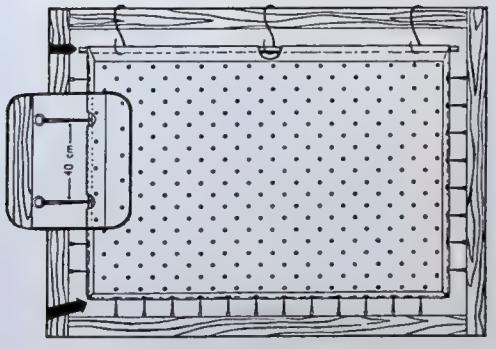
The ALL-BRITE all purpose

SCREENS

- 2-D
- 3-D
- WIDE SCREEN

The screen of unexcelled . . . unrivaled efficiency

- Especially designed for use of all projection services, including the panoramic, the All-Brite is made in all required sizes without limitation.
- Made of untearable, homogeneous Vinyl free from textiles, the All-Brite is not sewn but invisibly welded . . . does not show seams even under the highest light.
- The All-Brite is dust resistant, does not attract humidity, neither rots nor molds and is termite-proof. It will function ideally even in the tropics and insures a natural reproduction of all color films.



★

Due to a unique method of suspension, the All-Brite screen functions as and resembles a single, undivided piece in even the largest surfaces. Tension tubes which can be readily taken apart for transportation assure a perfect tightness. There is no buckling or sagging. Patent rights in Europe and overseas.

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Walker HI-INTENSITY Screens

...because

- **WALKER HI SCREENS,** after exhaustive tests, were selected over all others for the first showings of 3-D and are equally effective for 2-D and Theatre Television!
- **WALKER HI SCREENS** have greater reflectivity, giving startling new range and brilliance to color . . . and new depth to black and white films!
- **WALKER HI SCREENS** have a new revolutionary pattern and a metal coating over the plastic base, resulting in sharper definition throughout the screen area, with no "hot-spots"!
- **WALKER HI SCREENS** are protected against destructive oxidation, using new aluminum material which neither changes color, nor loses its reflective qualities!
- **WALKER HI SCREENS** are head and shoulders above all others, when it comes to *absolute crystal clarity, snow-white brilliance,* and *long-lasting economy.*

Order a
WALKER HIGH INTENSITY SCREEN
for Your Theatre!

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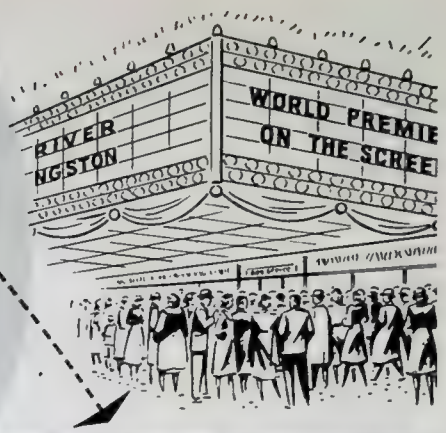
SOLE DISTRIBUTOR FOR WALKER HIGH INTENSITY SCREENS

TWO FOR THE SHOW

...for TOP box-office payoff



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BAUSCH & LOMB CENTENNIAL

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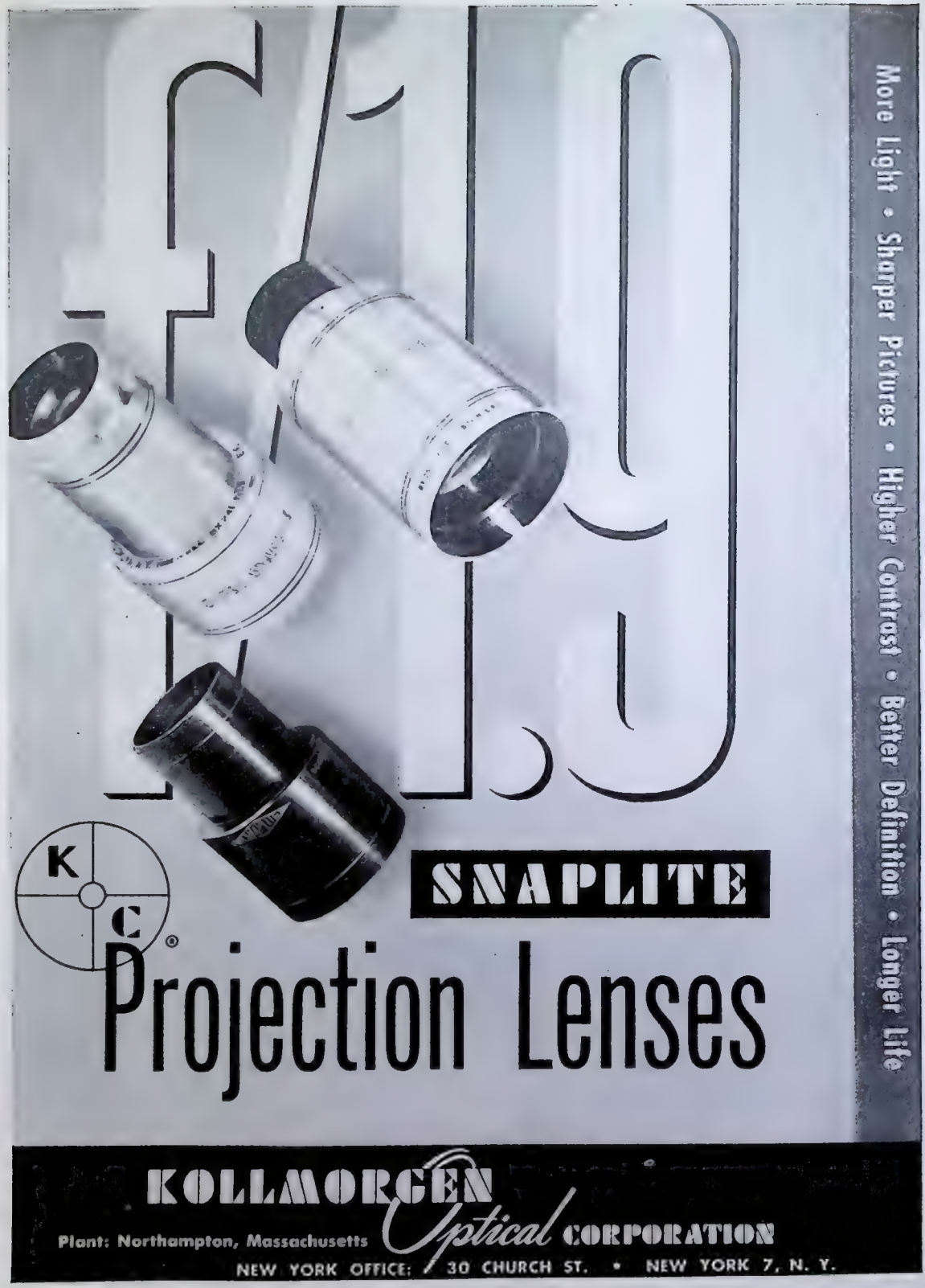
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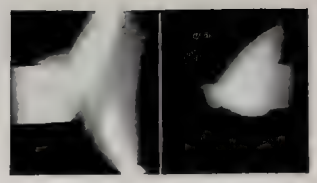
TRADE-MARK

PROJECTOR CARBONS



FOR EVERY TYPE OF PROJECTION LAMP

Sold through Authorized Distributors

SCREEN LIGHT AVAILABLE FROM HIGH INTENSITY PROJECTION LAMPS*

Type of Lamp	*Type of Carbon*	*Catalog No.*	*Size*	*Maximum Recommended Arc Current Amperes*	*Arc Volts*	*Maximum Screen Lumens 90° Shutter*	*Maximum Screen Width with 9 Ft. Lamberts at Center 75% Screen Reflectivity*
Condenser Type	High Intensity Positive "Orotip" Cored Negative	L 0115 L 1139	13.6 mm x 22 in. ½ x 9 in.	160	77	10,250	39.0
	"Hitex" Super High Intensity Positive Heavy Duty "Orotip" Negative	L 0175 L 1142	13.6 mm x 22 in. ½ x 9 in.	180	74	12,400	43.2
Simplified High Intensity	"Suprex" Cored Positive (New)† "Suprex" Cored Positive (New)† "Orotip" C Negative	L 0521† L 0525† L 0563	7 mm x 12 in.† 7 mm x 14 in.† 6 mm x 9 in.	50	40	5,850	29.6
	"Suprex" Cored Positive "Suprex" Cored Positive "Orotip" C Negative	L 0509 L 0512 L 0566	8 mm x 12 in. 8 mm x 14 in. 7 mm x 9 in.	70	40	7,000	31.6
	"Suprex" Cored Positive "Orotip" C Negative	L 0515 L 0569	9 mm x 14 in. 8 mm x 9 in.	75	45	7,500	32.2
"One Kilowatt" D.C. Arc	"Suprex" Cored Positive‡ "Suprex" Cored Positive‡ "Orotip" C Negative	L 0503‡ L 0506‡ L 0563	7 mm x 12 in.‡ 7 mm x 14 in.‡ 6 mm x 9 in.	40	27.5	3,250	21.9

*(All data based on use of F/2.0 treated projection lenses).
‡For use with fixed ratio "One Kilowatt" lamps only.
†For other than fixed ratio lamps.

The history of screen lighting, in which National Carbon Company has played a major role since the very beginning, records a continuous flow of improvements to obtain more and better light. Even today, with light levels which were considered unbelievable not long ago, progress has not stopped. Year after year the table above has been revised to include new carbons or improved carbons with one objective—a better and brighter light at the lowest possible cost.

Today every theatre in the country, large or small, can have snow-white projection light of sufficient intensity to provide a clear cut image on the screen, and a safe and comfortable level of general illumination in the auditorium. Each of the arcs listed above supplies light of the proper intensity to permit this level of illumination in the size theatre for which it was designed. Patrons want comfort in the theatre just as they want it in their homes.

The extensive use of color movies now makes these high intensity arcs a "must" in every theatre. They permit true and realistic reproduction of the carefully planned color combinations of the modern color feature. The dull and distorted reproductions of the old style low intensity lamps are now as outmoded as the horse and buggy—and are just about as popular.

Check today to see if your projection light is sufficiently bright to reflect in your boxoffice.

The terms "National", "Suprex", "Hitex" and "Orotip" are trade-marks of Union Carbide and Carbon Corporation.

NATIONAL CARBON COMPANY
A Division of Union Carbide and Carbon Corporation

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FOR THOSE WHO DESIRE THE BEST!

FOREST 3D RECTIFIERS

TYPE LD 75

cap. up to 75 amps. continuously on one arc lamp

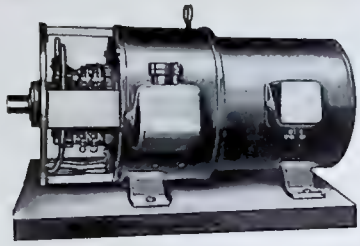
TYPE LD 90

cap. up to 90 amps. continuously on one arc lamp

Designed for continuous duty operation—both rectifiers tube type employing 6 standard 15 ampere tubes and equipped with remote control relays. DC voltage output sufficient to handle the higher voltage requirement of the carbons and easily adjustable to the amperage requirement of the theatre. One rectifier required for each lamp.

FOREST-HARRISON, INC.

CINEMATIC MOTOR GENERATOR



Designed for continuous duty operation on 3D. Will operate two arcs continuously or two arcs intermittently.

Type 180 — two arcs 90 amps each continuously
Type 230 — two arcs 115 amps each continuously
Type 300 — two arcs 150 amps each continuously
Type 350 — two arcs 175 amps each continuously

Voltage output 90 volts. Automatic control allows operation of single arcs intermittently or double arcs continuously. Silent vibrationless operation.

STURDY STEEL MAGAZINE

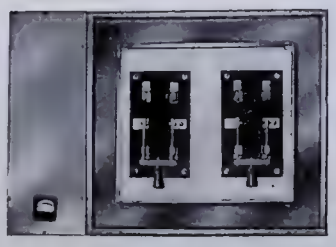
For 5,000 foot reels complete with take-ups and all fittings. Supplied in two types —upper and lower to fit any projector.

LOWER 25-inch MAGAZINE for Universal Base

Exclusive Cinematic product to replace the present smaller magazine now forming part of universal base. Cast steel, aluminum door, with all accessories to completely adapt present universal 24" reels. By substituting this magazine, conversion can be made without necessity of placing a magazine at rear of base with film chutes, etc.

INTERCHANGING SWITCHING CABINET

With two pole double throw 200 ampere switches for switching generators or rectifiers to the two lamps; DC voltmeter and space for generator field rheostat. Channels provided around switches for wiring. *Photo shows hinged cover removed.*



ALSO A COMPLETE LINE OF

Screens and Screen Frames • Electric Interlocks
Port Filters • Stereophonic • Sound Systems

CINEMATIC CORPORATION

Make your pictures glow with rich detail!

HELIOS BIO CARBONS *for* 3D *or* REGULAR PICTURES

- Guarantee better lighted pictures that show your films to best advantage with all the rich tone values and detail. It is easier on the eyes and your patrons will readily see the improvement.
- For any type or size projection lamp, any size theatre or drive-in.
- The extra high intensity of brilliant snow white illumination makes it especially desirable for long throws.
- Burn much slower and cooler with precision uniformity (so important for 3D, when 2 lamps are operating simultaneously).
- Maintain uniform brilliant snow white illumination throughout the life of the carbon and assure a more even distribution of light.
- Eliminates pitting of mirrors.
- Most economical. Consume far less amperage, last much longer, thereby saving in both carbon consumption and electric power.

HELIOS BIO CARBONS, INC.

122 WASHINGTON STREET • BLOOMFIELD, NEW JERSEY

NEW PRODUCTS, SUPPLIES, *and* SUPPLY DEALERS

1953-54

New Introductions During 1952

Some Thumbnail Descriptions of Selected Products With Interesting Possibilities

BRIEF: *Space permits only cursory presentations of some . . . and only those that seem to have unusual idea value are here outlined . . . The objective in this survey is to give the industry some recorded fact about available products and supplies that may not warrant fuller analysis of specific surveys of their own.*

FOR DRIVE-IN THEATRES

Outdoor Vacuum

An item from the Atwater-Strong Company which drive-in operators might look into as an addition to their maintenance equipment, is the "Mulch-Vac" sweeper. According to the manufacturer, this new device vacuums, cuts, and bags the debris left by crowds, such as peanut and popcorn boxes and bags, cigarettes, chewing gum, food, and candy wrappers.

Made of sturdy construction, it is claimed that the vacuum has been used regularly seven days a week, six hours a day. Easy to handle, the sweeper is self-propelled, uses a six-horse power Wisconsin gasoline engine, has three-foot wide pick-up, and it can be used on grass, dirt, loose stone, or hard surface areas.

Auto Window Screen

Production of window screens in three sizes to fit all makes and styles of automobiles except convertibles, was recently announced by the Gig Manufacturing Company.

The Gary Insect Guard, known as "Gig" affords insect-free car ventilation throughout the summer months, it is claimed, and is said to be especially valuable at outdoor theatres.

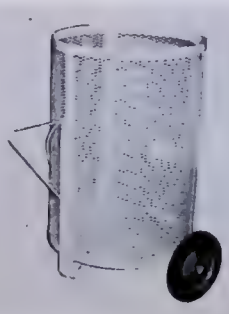
Made of durable screen fabric, each "gig" comes complete with adhesive

borders for applying the screen to either the inside or outside of the window frame in a matter of seconds. When not in use, they can be folded and conveniently stored in a space as small as the glove compartment, according to the manufacturer.

Debris Cart

Poblocki and Sons, recently put on the market a "Handy Andy" utility carrier designed to speed up the daily cleanup in drive-ins. The cart is a light, all steel carrier easily pulled from ramp to ramp, where its 24-inch metal basket stands ready to receive the debris. When filled it can quickly be pulled to rubbish burning area. If desired, refuse can be burned in the basket which is easily demountable, while the worker continues with a second basket on the cart. The open construction of the basket allows fire to burn within freely, yet does not require watching, it is claimed.

In addition, the cart is available with a utility platform 24 by 24 inches, for general cartage within the theatre. Crates of soft drinks, film, etc., can be conveniently loaded for short hauls.

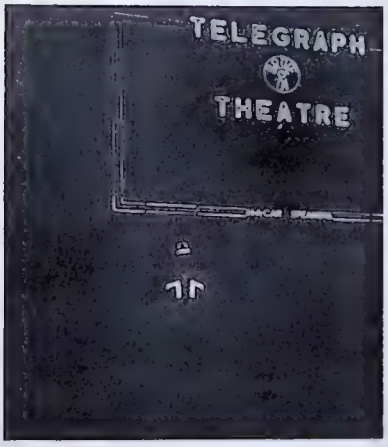


Safety Jacket

A jacket having reflectorized Scotchlite strips which will shine brightly when hit by automobile headlights, has been designed for the safety of drive-in personnel, and is being distributed by the Dawo Corporation.

Tailored smartly with two slash pockets, full zipper front and fitted back, the jackets are made of water-repellent poplin, and have two stripes of the reflectorized material on the front, placed diagonally, and one horizontal strip in the back.

They not only protect the wearer by making him visible in the darkness, but also give a uniformity of appearance to drive-in employees so that they can be readily distinguished from patrons.



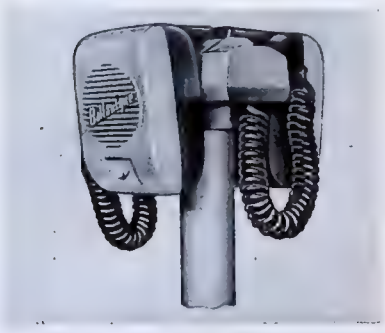
Plastic Hose Sprinkler

Produced by the A. M. Andrews Company, Inc., this new lightweight Vinylite plastic hose sprinkler should prove to be useful in outdoor theatres. The 50-foot sprinkler hose weighs about one and

one-half pounds, and is said to cover 600 square feet of lawn or garden. It is claimed that the hose is resistant to mold and mildew, and stores safely even while wet, yet it will not rot. The sprinkler consists of a double tube with pin-point holes staggered along the length of each tube for even water coverage. Said to be tested at 120 pounds of pressure, this sprinkler is designed to withstand any city water pressure as long as it is not too kinked too close to the coupling. It is available in 20, 30, 50, and 100 foot lengths, and comes ready to be attached to any hose.

Weather-Resistant Speaker

One of the more interesting new products introduced last year was the Dub'l Cone In-Car speaker manufactured by the Ballantyne Company. The Dub'l Cone was designed to stand up under the ravages of sun, rain, and extremes of temperatures, according to the company. It is claimed that at the volume level normally used in drive-in theatres, the response of the four-inch speaker mechanism is superior in quality to that of larger speakers when these are cramped into small housings.



The speaker consists of two cones, one superimposed over the other, with a three-sixteenths of an inch air space in between. The outside cone floats and operates independently of the inside cone, the outside being for protection, and the inside one for sound projection. Both cones are said to be completely weather-proofed.

The case is die cast of aluminum, and finished in two-tone color. An enclosed tamper-proof, wire-wound volume control is used. There are small drain holes in the bottom of the case allowing for drainage in event that the wind-driven rain enters the speaker grille, or moisture condenses in the case during extreme changes in temperature.

A "Frank Bank"

A "Frank Bank" holding five dozen buns and 10 dozen hot dogs, with service from the bottom putting both buns and dogs at convenient level for fast, easy operation was recently developed by Manely, Inc. The big capacity machine is designed for refreshment stands at drive-ins and other large volume operations. Patented design racks keep the buns and hot dogs from spilling. The Fiberglas-insulated cover lifts off to open the top for loading, and a special "Freshener Valve" beneath the bun rack

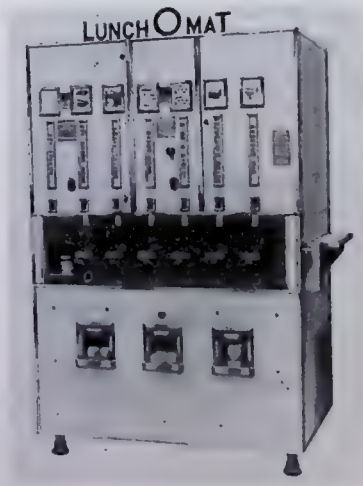
is adjustable to whatever amount of steam needed to keep buns in proper condition. The "Frank-Bank" strips down easily for quick, thorough cleaning. Other features include variable heat selector, thermostatically controlled for fast steaming at 200, 500, or 1000 watts; stainless steel construction; black, baked enamel base; 115 volts wiring, and, an overall size, 24 inches long, 17¾ inches high and 14½ inches deep.

Food Vendor

Lunch-O-Mat Corporation recently announced the release of the newest in automatic merchandising, the "Lunch-O-Mat" manufactured by Statler Manufacturing Corporation, vending hot coffee, hot sandwiches, cold sandwiches, pies, pastries, milk, chocolate milk, and juices. The Lunch-O-Mat is a flexible vendor, manually operated but electrically refrigerated, and it incorporates the newest in air-conditioning by Carrier Corporation, as well as the latest in radar instant heating.

The unit consists of seven divisions. Standard operation permits vending of 30 containers of milk in one; 30 containers of chocolate milk in another; 50 hot sandwiches in another; 50 cold sandwiches with a choice of two kinds — one division containing 88 cans of juice; another that holds 50 pieces of pies and pastries; and one division that has a capacity for vending 150 cups of hot coffee.

All divisions are interchangeable, except coffee. The seven divisions work



independently from one another, each having its own coin mechanism. There is a manually operated changemaker, and seven vending sections to the machine, employing seven different coin mechanisms, vending at seven different prices, and serving a portion at each one.

FOR FRONT AND LOBBY

Safety Feature for Doors

The Magic Door Division of the Stanley Works recently announced the development of what is said to be a completely effective safeguard against injuries to fingers from accidental door closings.

Called Stand-Guard, this new device runs the full length of the door at the door jamb, completely sealing off the danger area from top to bottom. Essentialy a flexible plastic stripping, Stan-Guard is fastened to the door and the door frame with aluminum anchor moldings, which hold it securely in place, without interfering in any way with the opening and closing of the door.

It is claimed Stand-Guard can be installed in virtually any hinge or pivot-hung door. It is suitable for use on manually operated, or automatic doors of wood or metal construction.

Black Light Fixture

A new streamlined, weatherproof black light fixture for illumination of outdoor signs and billboards is now available from Ultra-Violet Products, Inc.

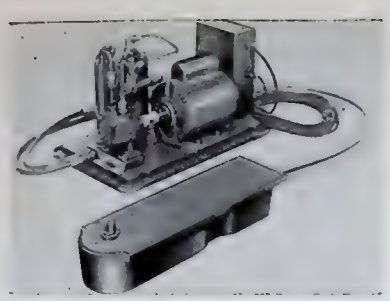
Blak-Ray units employ two self-filtering long wave ultra-violet tubes with a specially designed reflector that delivers far greater intensity, according to the manufacturer. Thus fewer fixtures are required per lineal foot of copy, and brilliant fluorescent colors are obtained even at locations where an unusual amount of visible light exists.

Tubes and reflectors are housed in a large-diameter, ultra-violet transmitting Pyrex tube that is adjustable so its powerful horizontal beam is directional. Units are available with two 150-watt white flood type bulbs as an integral part of the fixture, and an intermittent flasher for these white lights may be installed in the base, if specified.

Automatic Door Control

Production of a newly designed, electrically operated hydraulic door control was announced by the Dor-O-Matic division of Republic Industries, Inc.

The automatic "Invisible Dor-Man" opens any type of door the instant a person steps on the carpet leading through the doorway, it is claimed by the company. The door remains open until the person has walked through,



and then closes with a two speed action.

This new door control system consists mainly of the door control mechanism which is concealed in the floor, and the hydraulic power unit, equipped with a one-half horsepower motor. Because of the compactness and convenient size of the power unit, it can easily be hidden from view at any distance from the door.

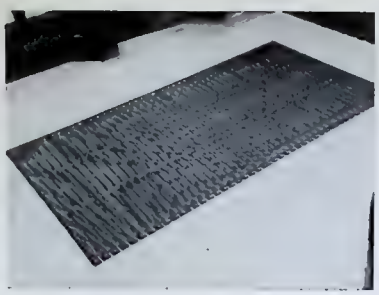
No alterations are required in applying the "invisible Dor-Man" to any standard door. No special devices are placed in the head jamb, and the operating units are completely concealed. In case of power failure the door will operate manually, without locking or jamming. Considering the constant threat of fire this is a valuable safety feature.

Break-Away Guide Ropes

Velour-covered guide ropes with an exclusive break-away feature are now being manufactured by Lawrence Metal Products. Used across doorways, or restricted areas where unexpected pressure might be applied, the break-away ropes will open at a weight of five pounds, helping to keep crowds in line, but meeting unexpected pressure with safe "give," it is claimed. Guide ropes are offered in one and one and a half inch diameters, covered in blue, gold, maroon, green or grey velour, with special colors available on request.

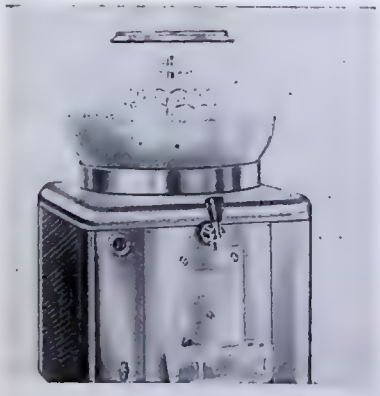
Corrugated Entrance Mat

The American Mat Corporation is currently marketing a new and improved variation of the familiar corrugated-perforated mat. The new product, which is manufactured in black and in a soft rose color, is known as Traffic-Tred Corrugated-Perforated. According to the company the new mat is topped with a triple-ridged surface, has diagonal ridges for drainage on the under side, is made from a rubber compound so increased in tensile strength that unwashable cord has been eliminated, and it is priced 15 per cent lower than the old type corrugated-perforated of similar thickness. It is also claimed that the top surface of the mat will remove more dirt than the surface of any molded mat made.



Beverage Dispenser

Majestic Enterprises, Limited, is producing a new model fountain type refrigerated beverage dispenser with illumination. The globular bowl is made of clear lucite, permitting 100 per cent visibility of the contents, which can be quickly and easily removed, permitting the operator to clean it thoroughly in a few minutes. It is also equipped with lucite cascades, over which the beverage flows. The removable dome is made of pastel lucite, illuminated and so constructed that it also illuminates the cascades and the contents of the bowl. A new, improved circulating pump sprays the beverage to the dome, showering it down over the illuminated cascades, and making a compelling and animated attraction.



All parts coming in contact with the beverage are made of stainless steel, lucite, and neoprene. The cabinet is made of highly polished stainless steel, and requires only 18 and a quarter inches by 17 inches counter space. The overall height of the dispenser is 34 inches. It has a self-contained, heavy duty Tecumseh vacuum sealed condensing unit of one-quarter horsepower, and thermostatically controlled to maintain beverage temperature of 40 degrees Fahrenheit, or lower.

FOR INTERIOR AND AUDITORIUM

Coating for Masonry

A new moisture-resistant and decorative coating for masonry surfaces inside the theatre is said to be easy to apply, quick drying and durable by the manufacturer, Protex-A-Cote.

Rolled on to a smooth surface the coating covers in a single application and, under normal conditions, dries to the touch within 30 minutes. Even on surfaces such as cinder block and rough brick, the coating is said to form a dry film of attractive finish that does not oxidize, but retains its color and flexibility. Adhering to the surface to which it is applied, the coating will not lift, peel, chip or crack, if the surfaces have been properly cleaned. Resistance to moisture, mildew, and vermin makes the coating particularly useful for cellar walls where seepage is caused by intermittent drainage. The coating is available in a wide variety of colors including white, cream, dado green, flamingo pink, etc.

Lounge Wall Covering

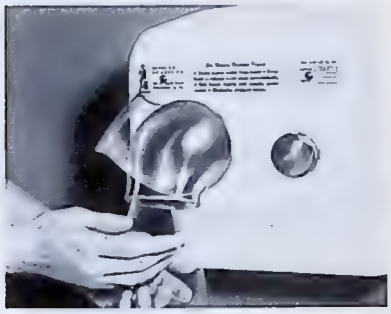
A new product which may be used to redecorate lounge walls, is softly brushed California Redwood plywood recently introduced by the M and M Woodworking Company under the name Malarkey Shadowood.

Shadowood is a textured surface Redwood plywood from which a large part of the soft portion of the grain has been brushed. This is done in a way that

leaves no splintered or ragged surface, but rather a rounded, lightly polished, considerably harder face, it is said. The panels have a natural Redwood tone and lend themselves to a wide choice of finishes. Finishes will respond in a better than usual way with Shadowood due to the fact that some of the soft grain is left on the face. This allows the panels to display more color and variance of tone when stains or Enameloids are applied.

Automatic Hand Dryer

Development of a new automatic hand dryer that combines round-the-clock deodorizing with new drying efficiency, was announced by the American Dryer Distributing Corporation. The new American Dryer employes a specially developed General Electric ozonating system which is said to destroy all objectionable odors in washrooms. The ozonaire system works constantly converting oxygen into odor-destroying ozone.



Housed in a streamlined white porcelain and chrome cabinet, the American Dryer is modern in appearance. A press of the starter button produces a gentle, effective stream of warm air from the nozzle, and is said to dry hands completely in 18 seconds. An accurate timing device turns off the motor and heating elements at the end of a 30-second cycle. The nozzle, which revolves on a 360 degree cycle, may also be turned for face, and body drying.

Dual Purpose Stall Lock

Electric-Aire Engineering Corporation is currently marketing Cee-Loc, a dual purpose combination, self-cleaning cigarette shelf and toilet stall door lock.

As a cigarette shelf, Cee-Loc provides a clean place to lay a cigarette, and a disposal unit that automatically disposes of ashes and butts. The cigarette shelf is automatically brought into position for use when the stall door is locked, the company claims. The door is unlocked by lifting the cigarette shelf, and at the same time the ashes are dumped into a fully concealed self-contained receptacle, which is removed for emptying through use of a special key supplied by the manufacturer.

As a lock it insures privacy and also provides a safe place to hang a purse or handbag with no possibility of being forgotten, as stall door cannot be unlocked without removing the bag and closing the shelf.

Germ-Killing Toilet Seat

Sanitaryseat, manufactured by Sanitaryseat Corporation, is a toilet seat which is said to be made germ-free by the ultra-violet rays supplied by a Sterilamp. The all-metal cabinet has a white, baked enamel rust-resisting finish, and the molded seat is of durable construction. When the normally "up seat" is lowered, shutting off the lamp, it remains in lower position for a few seconds

before returning to the cabinet. The Sterilamp is securely socketed in a vertical position and hidden from view by the central panel of the cabinet. It is so placed that it discourages tampering, it is claimed. The ozone generated by the lamp is said to oxidize the rest room odors.

According to the company, the unit comes completely assembled and bolts on to any standard hopper, as does an ordinary toilet seat, and will eliminate the need for deodorants and the practice of covering seat with paper.

Fire Equipment Cabinet

A complete fire protection package for theatres in a wall cabinet with satin-finish extruded aluminum door and trim is available from the Elkhart Brass Manufacturing Company.

An interesting feature of the new hose cabinet door and trim is that it may be installed after plastering so that the architecturally well-designed trim

and door are kept free from damage during construction.

The typical hose cabinet door, factory glazed with high quality glass, rubber cushioned channels, is said to put on view the entire contents of the cabinet, including a one and a half inch angle valve with 75 feet of unlined hose mounted on a one-piece rack, and equipped with an approved fog nozzle, plus a two and a half inch valve to be used by local fire fighters, a two and half gallon 500-pound tested brass drawn shell fire extinguisher, fireman's axe and spanner wrench.

Cabinets may also be made to hold hand extinguisher only. Standard sizes come in five widths and three lengths. The doors may be removed easily for installation of hose rack and hose.

PROJECTION AND SOUND

Magnetic Recording Console

Ampex Electric Corporation recently made available a new type console for audio magnetic recording. Designed especially for the medium price market, the console has all push-button control, a built-in microphone pre-amplifier, and a newly styled cabinet which gives full interior accessibility.

Exclusive Ampex 15,000 cps response at the seven-and-a-half inch speed has been incorporated, as well as such other features as wide dynamic range, negligible speed variation, and low noise level, it is claimed.

Two models are presently available; Model 402 has half-track heads and

Model 403 utilizes full width of standard quarter-inch tape.

Arc Slide Projector

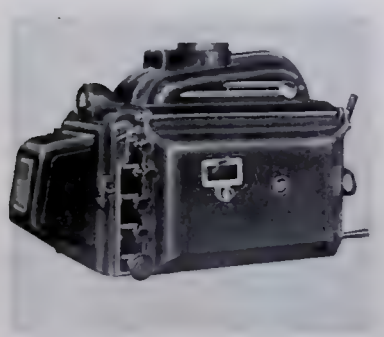
The development of a new universal high intensity arc slide projector said to project pictures of a size and brilliancy comparable to large screen theatre projection, was recently announced by the Strong Electric Corporation.

Able to accommodate slides from two inches by two inches, to four inches by five inches, it is said to have many uses for drive-ins, TV and movie studios, and auditoriums. This high intensity arc projects a snow white light as compared to the yellow light of the Mazda, heretofore relied upon for slide projection. Said to be extremely simple to operate, any 110-volt A. C. convenient outlet is all that is needed to obtain a power supply.

The projector is 78 inches in length and adjustable legs permit establishment of the optical center at a height of from 36 inches to 56 inches. A projection angle of as much as 27 degrees downward, and of 10 degrees upward is afforded.

Hy-Arc Lamp

An economical new carbon-arc lamp engineered especially for indoor and medium size drive-ins is available from the RCA Victor Division, Radio Corporation of America.



The new lamp, designated the RCA Hy-Arc, has a light output of approximately 18,000 lumens. It operates with a 9mm by 20-inch high-intensity positive carbon and a 5/16-inch by 9-inch negative carbon at currents from 70 to 90 amperes, with low arc voltage for reduced carbon consumption, it is claimed. The lamp has accessible controls for ease of operation.

Included among the new features of the lamp are provisions for magnetic stablization of the arc flames; a water-cooled, non-rotating positive carbon; a large 15-inch high-speed reflector; an extra large interior for cool operation; and a construction affording maximum protection of all operating components from dirt, it is claimed. The doors are large, and expose a maximum of the interior of the lamphouse when raised. There are no obstructions on the floor of the lamphouse, making it easy to keep the lamp clean.

Wide Screen Frame

An all-purpose curved, metal wide screen frame, adaptable to any size theatre, has been developed by the Drive-In Theatre Manufacturing Company.

The metal used in the frame is said to be such that it is light enough to fly up to the left in vaudeville houses, yet strong enough to withstand the stress imposed upon it. The steel is rolled into the proper arc at the steel mill, and by installing special adapters, the proper radius is kept at all times. The "A" frames are positioned so as to allow room for three sets of speakers, they also permit the frame to be tilted to any desired angle, and may be folded in for maximum room when the frame is moved to the back wall.

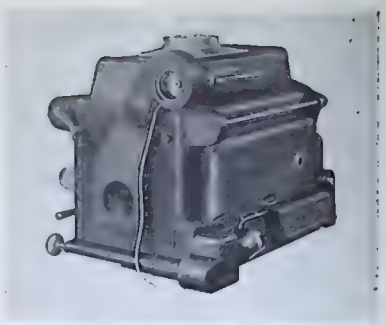
A special type of lacing hook is spaced around on the face of frame, allowing the picture to be kept as low as possible. For masking ease, and fast installation, DIT-MCO also developed a curved metal masking frame that has the proper curvature to match radius of the frame.

Heat Deflector

A method of successfully reducing the projector heat with a small loss of light was recently announced by the C. S. Ashcraft Manufacturing Company, Inc.

A cast aluminum blower housing and duct is mounted upon the front of the projection lamp with the light aperture coinciding with the light beam opening in the lamphouse front.

A five-inch heat reflecting glass mounted in a suitable frame, and held in position by spring clips, is set at an angle approximately 15 degrees to the optical axis. The angular position of this glass and frame is said to accomplish the following:



It reflects the heat beam downward toward the base of the lamphouse away from the mechanism. It presents a maximum area to the air cooled blast in the duct. It deflects the air stream away from the interior of the lamphousing where it would cause arc turbulence. It makes unnecessary the use of glass between the rear shutter and lamphouse, which ordinarily prevents the shutter fan from disturbing the arc, but reduces the total light about 10 per cent.

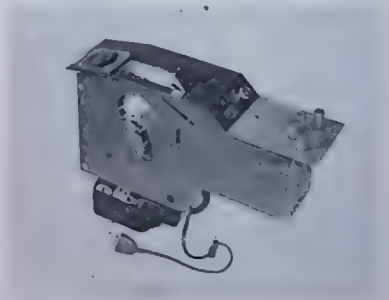
A ball bearing shunt wound motor is mounted on an extension of the blower and duct casting. This motor is connected directly to the arc terminals, and has a speed of about 3,500 rpm. A squirrel cage fan is mounted directly on the motor shaft so that an extremely high velocity and large volume of air is directed upon the filter glass. Suffcient heat is thus removed to prevent deterioration of the coated surfaces, it is claimed.

FOR MANAGEMENT

Ticket Issuing Units

The Argus Manufacturing Company, is marketing its new, individually motorized ticket issuing units. The attractively finished cabinets accommodate three, four, or five individual units, any of which may be quickly and easily removed without affecting the operation of the others, according to the manufacturer.

Tickets, in sets of from one to four, are automatically dispensed in an upright position. Not more than one key of the same unit may be operated at one time, and it is said that the machine will not repeat if the key is held down. The delivery chute will not jam, if tickets are accidentally pushed back. When the ticket magazine is empty, the unit locks automatically. The sales total is recorded on tamper-proof, non-reversibile counter, and is always instantly



accessible by simply lifting the top plate.

The machine is activated entirely by the use of cams and levers rather than by gears. The top plate and counter flange are finished in satin chrome to eliminate glare and eye-strain.

Circuit Breaker

Mini-Breaker is the name of a new permanent type circuit protective device made by Mechanical Products, Inc. The device is designed to replace the conventional fuse, and it is claimed to be the only one of its kind to meet all the essential design, safety, and performance requirements established by Underwriters' Laboratories, Inc.

The device fits like a fuse in any standard Edison base fuseholder delivering up to 125 volt ac.c. service, and requires no additional equipment and no special wiring when applied to branch or main circuits of corresponding 15, 20, or 30 ampere ratings, it is said.

Mini-Breakers can be installed in a matter of seconds, and anyone can restore electrical service simply by pressing in and releasing its shock-proof reset button. In operation, the new device safely interrupts excessive overloads on "shorts" but with a built-in time lag to handle temporary starting loads and line surges. It is claimed that although service can normally be restored within 10 seconds after an interruption by releasing the reset button, it will not maintain a circuit that has not been cleared of the condition that caused the interruption.

Cashier Device

Designed to make the cashier's work easier, faster, and more accurate, Chashand is a new metal device for handling paper money, and is made by the Cashand Company. Said to fit the bill compartments of all cash registers, cashier draws, and cash boxes now in use, the device is easily installed in a few seconds, and features a spring construction which keeps the bills aligned and evenly stacked. An automatic, self-adjusting riser plate keeps one bill or a capacity load level with the top of the compartment for instant withdrawal. Special rubber flare buttons at the front fan

out the edges of the bills, and keep them separated to eliminate any possibility of picking up more than one bill at a time. The flare feature prevents new bills from sticking together, it is claimed, and makes them as easy to handle as used currency. One bill or a stack can be inserted in device instantly by a slight downward pressure of the fingertips.

Fire Alarm Station

A fire alarm station that sets off a signal manually or automatically when the temperature reaches approximately 165 degrees F., is now being marketed by the Faith Company.

Attractively framed in a wall panel made of plastic, the station is always ready for operation. To set off the signal manually, a small hammer attached by a chain is used to strike a small round glass panel. Shattering the glass releases a spring, automatically making electrical contact and sounding the alarm. If the temperature reaches approximately 165 degrees a drop of soft solder melts, releasing the alarm.

The station can be tested by simply loosening two screws, above and below the glass disk, setting off the alarm automatically. The station is available with the plastic wall panel molded in colors to harmonize with the decoration.

Coin Changer

Metal Products Engineering, Inc., recently announced the availability of their new MP Jr Coin Changer. Said to weigh only nine pounds, the coin changer features a new inner storage box for currency that fits out of sight under the top tray. The removable top tray with recessed handles lifts easily even when

fully loaded with coins, and adequate utility space is provided in the tray for additional change, stamp pads, etc., and contains a slot for 10 silver dollars.

According to the manufacturer, each touch of the thumb ejects a single coin into the palm, and the machine handles worn coins as easily as new ones without sticking or jamming. The body and component parts are constructed of nonbreakable heavy guage aluminum. High grade steel parts are cadmium plate for rust-proof protection, and heavy duty piano wire coil springs assure continuous trouble-free operation. The coin changer is finished in durable hammertone gray.

FOR MAINTENANCE

Prefabricated Building Panels

New prefabricated, prefinished panels are now being sold by Marsh Wall Products, Inc. These panels are said to combine quick installation, economy, permanence, and low maintenance costs.

This new hollow core panelling may be used in the construction of concession stands, storage areas, etc. The rigid panels are self-aligning and require no backing other than joists, studs, or furring strips on masonry or partition walls, thus saving in labor costs, time, and material, according to the manufacturer.

These panels can be installed without the use of backing materials, adhesives, clips, division mouldings and bracing. A tongue and groove system with special joints provides easy accurate fitting and a finished appearance without the use of mouldings.

Available in two sizes, 24 inches by 48 inches, and 24 inches by 96 inches, the panels are manufactured in cream and white, and in wood patterns.

Durable and permanent, it is an ideal paneling for walls in areas which are subjected to hard daily wear.

Emergency Power Plant

A new ultra-modern and electric generating plant, engineered primarily for emergency stand-by service, was recently announced by the Universal Motor Company. This new model has a 10 KW capacity suiting it for a wide range of applications, such as use as an emergency power plant for theatres. It is available with electric starting, or can be supplied with controls which automatically start the plant the instant regular power fails.

An important feature of this model is its four cyclinder air-cooled gasoline engine.

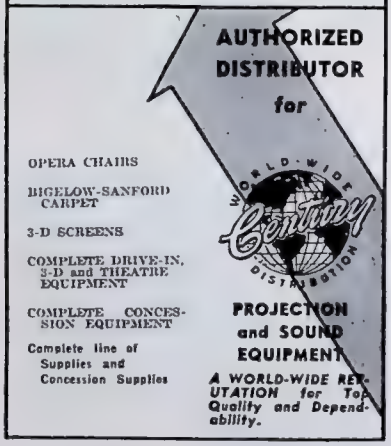
Theatre Supply Dealers of the United States

Comprehensive Listing of Names, Addresses, Personnel, Products, and the Areas Served

ALABAMA

*BRADY MOVIE SERVICE, 308 N. 26th St., Birmingham. Telephone: 54-1362. PERSONNEL—Larry G. Brady, R. E. Lee.

THE QUEEN FEATURE SERVICE, INC., 1912½ Morris Ave., Birmingham 3. Telephone: 3-8665. PERSONNEL—*Manager:* Miss Vivian Harwell. *Salesman:* William H. McKenzie. AREA SERVED—Alabama, Tennessee, Mississippi, Georgia, Northern Florida.



ARIZONA

*GIRARD THEATRE SUPPLY CO., 320 W. Washington St., Phoenix. Telephones: 4-2087 (Emergency Night) 2-9572 - 5-2711. PERSONNEL—*President:* Weldon Girard. *Treasurer:* Thelma B. Girard. *Office Mgr.:* William Ferrell. Marie King, T. C. James. AREA SERVED — Arizona, New Mexico, Colorado, Utah.

ARIZONA FILM SUPPLY CO., 33 W. Congress St., P. O. Box 5447, Tucson. Telephone: 26272. PERSONNEL—Nick Diamos, George N. Diamos, George O. Diamos. AREA SERVED—Arizona.

ARKANSAS

ARKANSAS THEATRE SUPPLY CO., 1008 Main St., Little Rock. Telephones: 22632—(Emergency Night) 202067. PERSONNEL—*Owner:* H. E. "Seed" Wortsmith. AREA SERVED—Arkansas, Tennessee, Mississippi, Missouri.

CALIFORNIA

MIDSTATE THEATRE SUPPLY, 1906 Thomas, Fresno. Telephone: 3-2455. PERSONNEL—*Owner and Manager:* Paul Wallace. AREA SERVED—Central California.

J. M. BOYD CO., 2032 S. Vermont Ave., Los Angeles 7. Telephone: REpublic 2-0046. AREA SERVED—Southern California.

*JOHN P. FILBERT CO., INC., 2007 S. Vermont Ave., Los Angeles 7. Telephones: PArkway 1196-97-98. PERSONNEL—*Consultant:* John P. Filbert. *President:* J. Edward Miller. *Secretary-Treasurer:* John P. Filbert, Jr. *Salesmen:* Don M. McLaren, James E. Doolittle. *Shipping Dept.:* Robert Peterson. *Bookkeeper:* Ida K. Marshall. *Stenographer:* Frances W. Flowers.

MOTION PICTURE ACCESSORIES CO., 1678 W. 17th Place, Los Angeles 6. Telephone: PArkway 2894. PERSONNEL—*Owners:* James B. Dabney and James B. Dabney, Jr. AREA SERVED—Western and Coast states.

NATIONAL THEATRE SUPPLY, 1961 S. Vermont Ave., Los Angeles 7. PERSONNEL—*Manager:* Bundy Smith. *Assistant Manager:* Jack Hessick. *Salesmen:* Al Schuyler, S. V. Aspaas. AREA SERVED—Southern California, Arizona, Nevada.

PEMBREX THEATRE SUPPLY CORP., 1969 S. Vermont Ave., Los Angeles 7. Used Equipment Division, 1975 S. Vermont Ave. Telephones: REpublic 1-3111—(Emergency Night) DUnkirk 8-6764, TOpaz 2-3412. PERSONNEL—*President and General Manager:* Louis M. Wutke. *Assistant Manager:* J. E. Maguire. AREA SERVED—Southern California and Arizona.

B. F. SHEARER COMPANY, 1964 S. Vermont Ave., Los Angeles 7. Telephones: REpublic 3-1145—(Night) BRighton 04901, AXminster 1-3576. PERSONNEL—*Manager:* Barclay W. Ardell. *Salesmen:* Ed Budd, L. F. Abbott, Don Grieve. *Engineer:* Henry Grussing. *Counter Man:* Stanley H. Lay. AREA SERVED—Southern California, Arizona, New Mexico, Southern Nevada.

*NATIONAL THEATRE SUPPLY, 255 Golden Gate Ave., San Francisco 2. Telephone: MArket 1-4171. PERSONNEL—*Manager:* Heaton Randall.AREA SERVED—Northern California, Nevada, Southern Oregon.

WALTER G. PREDDEY, 187 Golden Gate Ave., San Francisco 2. Telephones: UNderhill 1-7571-2—(Emergency Night) BAyview 1-5749. PERSONNEL—*Owner:* Walter G. Preddey. *General Manager:* Robert O. Bemis. *Salesmen:* H. C. Graywood, Kenneth Sturgis, R. L. Mann. AREA SERVED—California, Nevada, Oregon, Arizona, Hawaii, Alaska.

B. F. SHEARER COMPANY OF CALIFORNIA, 243 Golden Gate Ave., San Francisco 2. Telephone: UNderhill 1-1816. PERSONNEL—*Manager:* H. I. Tegtmeier. *Salesmen:* Wesley Rosenthal, L. R. Abbott, T. L. Shearer, Jr., E. R. Bechtel. AREA SERVED—Northern California, Nevada, Southern Oregon, Hawaii.

*C. R. SKINNER MFG. CO., 292 Turk St., San Francisco.

*WESTERN THEATRICAL EQUIPMENT CO., 337 Golden Gate Ave., San Francisco 2. Telephone: Hemlock 1-8302. PERSONNEL—*President and General Manager:* James R. Barry. *Salesmen:* Davis Petersen, J. E. Doolittle. AREA SERVED—California, Nevada.

COLORADO

*GRAHAM BROTHERS, 546 Lincoln St., Denver 9. Telephone: TAbor 5467. PERSONNEL—*Owners:* J. M. and H. W. Graham. AREA SERVED—Colorado, New Mexico, Wyoming, Nebraska.

NATIONAL THEATRE SUPPLY, 2111 Champa St., Denver 2. Telephones: TAbor 0201—(Emergency Night) Race 0392. PERSONNEL—*Manager:* Joe B. Stone. *Assistant Manager:* Dick Lutz. *Salesmen:* Bob Tankersley, Morton Dyksterhuis. AREA SERVED—Colorado, New Mexico, Wyoming, Western Nebraska, Eastern Montana, and Black Hills of South Dakota.

SERVICE THEATRE SUPPLY CO., 2054 Broadway, Denver 2. Telephones: ALpine 1597—(Emergency Night) AL. 1597. PERSONNEL—*President:* Ted Knox. *Secretary and Treasurer:* Elsie Knox. AREA SERVED—Denver Film Territory.

WESTERN SERVICE & SUPPLY INC., 2120 Broadway, Denver 2. Telephones: KEystone 8041, KEystone 5729 — (Emergency Night) BE 3-1510. PERSONNEL—*President:* H. M. McLaren. *Sales:* S. R. Langwith, Jean Gerbase, Jack M. McLaren. Fred Anderson. AREA SERVED — Colorado, Wyoming, Western Nebraska, Western S. Dakota, New Mexico.

CONNECTICUT

NATIONAL THEATRE SUPPLY, 122 Meadow St., New Haven 10. Telephones: STate 7-5829—(Emergency Night) WEst 3-2026. PERSONNEL—*Manager:* R. J. Mauro. *Assistant Manager:* David R. Warner. *Secretary:* Miss Frances Hogan. AREA SERVED—Connecticut.

DISTRICT OF COLUMBIA

ELMER H. BRIENT & SONS, INC., 925 New Jersey Ave., N.W., Washington. *(See display listing on opposite page.)*

BEN LUST THEATRE SUPPLY CO., 1001 New Jersey Ave., N.W., Washington 1. Telephones: NAtional 8-5376 — (Emergency Night) DEcatur 2-5758. PERSONNEL—*Owner and Manager:* Ben Lust. *Salesman:* O. F. Leland. *Secretary:* Mrs. Harold Nixon. *Service Engineer:* Herbert Barberie. AREA SERVED—District of Columbia, Maryland, West Virginia, Virginia.

ELMER H. BRIENT & SONS, INC., 925 New Jersey Ave., N.W., Washington, D. C. Telephones: District 7-9505-6, Oliver 2-1453. PERSONNEL—*General Manager:* Elmer H. Brient, *Office Manager:* Ted C. Brient. *Sales:* Robert H. Brient. *Engineers:* Jack K. Vogel, C. L. Rakow. AREA SERVED—District of Columbia, Maryland, Virginia, Northeastern W. Virginia, Delaware.

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R & S THEATRE SUPPLY CO., 920 New Jersey Ave., N.W., Washington 1. Telephones: STerling 3-8938 — (Emergency Night) HEmlock 4-8812, EMerson 3-5686. PERSONNEL—Samuel N. Wheeler, Ross S. Wheeler. AREA SERVED—Virginia, Maryland, Delaware, District of Columbia.

FLORIDA

SOUTHEASTERN THEATRE EQUIP. CO. OF FLORIDA, 206 E. Bay Street, Jacksonville 4. Telephones: 4-3443. PERSONNEL—*President and General Manager:* J. B. Dumestre, Jr. *Assistant General Manager:* Fred Bearden, Jr. *Manager:* Herbert W. Small, III. *Representative:* Jerry Guy. AREA SERVED—Florida.

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UNITED THEATRE SUPPLY CORP., 110 N. Franklin St., Tampa 1. Telephone: 2-3045. PERSONNEL — *President and Treasurer:* Ray Busler. *Secretary:* Edna L. Worth. *Service Engineer:* William Bell. *Counter Man:* S. W. Smith. AREA SERVED — Florida, South Georgia, Cuba and the Bahamas.

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DIXIE THEATRE SERVICE & SUPPLY CO., 1010 N. Slappey Drive, Albany. Telephones: 3431 — (Emergency Night) 2015. PERSONNEL — *General Manager:* L. W. McClung. *Service Manager:* W. N. Ashbey. *Warehouse:* Lyle McClung, Jr. *Sales Manager:* James O. McClung. AREA SERVED — Georgia, Alabama, Northern Florida, Tennessee.

CAPITAL CITY SUPPLY CO., INC., 161 Walton St., N.W., Atlanta 3. Telephones: WA. 1244—(Emergency Night) CH. 6885. PERSONNEL—*President and Manager:* O. J. Howell. *Vice-President in Charge of Sales:* Lewis Waits. AREA SERVED—Georgia, Tennessee, Alabama, part of Florida.

NATIONAL THEATRE SUPPLY, 187 Walton St., N.W., Atlanta 3. Telephone: Lamar 8486. PERSONNEL—*Manager:* J. C. Brown. *Assistant Branch Manager:* R. M. Goldsmith *Salesmen:* J. G. Thigpen, R. L. McWilliams, Jr., J. H. Dunphy. AREA SERVED — Georgia, Florida, Alabama, Tennessee.

SOUTHEASTERN THEATRE EQUIP. CO., 203 Luckie Street, N.W., Atlanta 1. *(See display listing on this page.)*

WIL-KIN THEATRE SUPPLY, INC., 150 Walton St., N.W., Atlanta 3. *(See display listing on this page.)*

RHODES SOUND & PROJECTION SERVICE, 218 E. 56th St., Savannah. Telephones: 3-8788 — (If no answer) 3-1174. PERSONNEL—*President:* Irma F. Rhodes. *Engineer and Mgr.:* E. L. Rhodes. AREA SERVED — Georgia, Southeast South Carolina, Northern Florida.

SOUTHEASTERN THEATRE EQUIP. CO., 203 Luckie Street, N.W., Atlanta 1. Telephone: CYpress 0461. PERSONNEL—*President and General Manager:* J. B. Dumestre, Jr. *Assistant General Manager:* Fred Bearden, Jr. *Manager:* J. B. Dumestre, III. *Representatives:* W. N. Troy, C. H. McLean. AREA SERVED—Southern States.

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WIL-KIN THEATRE SUPPLY, INC., 150 Walton St., N.W., Atlanta 3. Telephone: Walnut 4613. PERSONNEL—*General Sales Manager:* C. W. Fortson. *General Manager:* Nash Weil. AREA SERVED—Alabama, Florida, Georgia, Tennessee.

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*AN-GAR, INC., 2831 N. Clark St., Chicago. PERSONNEL—G. C. Anders, R. S. Gardner.

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ABBOTT THEATRE EQUIPMENT CO., 1311 S. Wabash Avenue, Chicago 5. Telephones: HArrison 7-7573-74, 7-7520-21. PERSONNEL — *Owner:* Harold Abbott. *Sales Manager:* Spero L. Kontos. *General Manager:* Erwin J. Peterson. *Office Manager:* Eleanor Berger. *Installation Supervisor:* H. C. Blackwood. *Repair Dept. Manager:* Bernard Focken. AREA SERVED—Illinois, Northern Indiana.

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GER-BAR, INC., 442 N. Illinois St., Indianapolis 4. Telephone: LIncoln 1727. PERSONNEL—B. Hopkins, M. Hopkins, J. Archer, F. Leas, M. Dobbs, M. Wilson, H. Castle.

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NATIONAL THEATRE SUPPLY, 436 N. Illinois St., Indianapolis 4. Telephones: LIncoln 4517 — (Emergency Night) BRoadway 5825, TAlbot 6490, TAlbot 5126. PERSONNEL—*Manager:* B. N. Peterson. *Salesman:* W. S. Smith. *Office Manager:* Norma Geraghty. *Counter Man:* J. F. Bommerscheim. AREA SERVED — Indiana, Kentucky.

*PROJECTION EQUIPMENT CO., Union City.

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NATIONAL THEATRE SUPPLY, 1102 High St., Des Moines 9. Telephones: 8-8597 —(Emergency Night) 9-1075, 7-9631. PERSONNEL — *Manager:* Glenn K. Slipper. *Salesmen:* W. R. Davis, G. F. Howard. AREA SERVED—Iowa.

KANSAS

SOUTHWEST THEATRE EQUIPMENT CO., 118½ W. Douglas Ave., P. O. Box 2138, Wichita 1. Telephone: 2-2153. PERSONNEL —*Owner and Manager:* C. D. Peck. *Projection Maintenance:* J. O. Buckles. AREA SERVED — Kansas, Missouri, Oklahoma, Arkansas, Texas, New Mexico.

FALLS CITY THEATRE EQUIPMENT CO., 427-29 S. 3rd St., Louisville 2. Telephones: JAckson 7559, CLay 3186. PERSONNEL—*Owners:* W. E. Carrell, Sr., W. E. Carrell, II, J. Raymond Mattingly. *Salesmen:* Joseph A. McHugh, Harold V. Davis. *Counter Man:* Harry Woodson. *Service Man:* Joseph Hutton. AREA SERVED—Kentucky, Southern Indiana, Southern Ohio, Northern Tennessee.

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HODGES THEATRE SUPPLY CO., INC., 1309 Cleveland Ave., New Orleans 13. Telephones: CAnal 5293—(Emergency Night) 21-4-3441, FAirview 8902, TUlane 1498. PERSONNEL—*President:* W. A. Hodges. *Manager:* Myrna Posey. *Salesmen:* Joe Faia, Paul German. *Sound Engineer & Salesman:* H. J. Ballam. AREA SERVED—Louisiana, Southern Mississippi, Southern Alabama, Northern Florida.

JOHNSON THEATRE SERVICE, 1409 Cleveland Ave., New Orleans.

NATIONAL THEATRE SUPPLY, 220 S. Liberty St., New Orleans 13. Telephone: Raymond 4455. PERSONNEL — *Manager:* T. W. Neely. AREA SERVED—Louisiana, Alabama, Florida, Mississippi.

SOUTHEASTERN THEATRE EQUIP. CO. OF LOUISIANA, 214 S. Liberty St., New Orleans 13. Telephone: TUlane 8661. PERSONNEL — *President and General Manager:* J. B. Dumestre, Jr. *Resident Manager:* W. H. Murphy, Jr. *Representatives:* Raymond Germillion, Don Wilmoth.

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NATIONAL THEATRE SUPPLY, 417 St. Paul Place, Baltimore 2. Telephones: Mulberry 8266-67. PERSONNEL—*Manager:* N. C. Haefele. AREA SERVED — Maryland, District of Columbia, Virginia.

MASSACHUSETTS

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CAPITOL THEATRE SUPPLY CO., 28 Piedmont St., Boston 16. *(See display listing on opposite page.)*

JOE CIFRE, INC., 44 Winchester St., Boston 16. *(See display listing on opposite page.)*

INDEPENDENT THEATRE SUPPLY CO., INC., 28 Winchester St., Boston 16. Telephones: LIberty 0051 — (Emergency Night) Ken. 8995, Arl. 1693-W. PERSONNEL — *Manager:* E. K. Hosmer. *Salesman:* R. Quint. *Counter Man:* J. B. Devlin. AREA SERVED — Maine, New Hampshire, Vermont, Massachusetts, Rhode Island.

CAPITOL THEATRE SUPPLY CO., 28 Piedmont St., Boston 16. Telephones: LIberty 2-6797 — (Emergency Night) WEllesley 5-2647-J, PArkway 7-0808W. PERSONNEL—*President and General Manager:* K. R. (Ken) Douglass. *Treasurer:* Frank Gray. *Manager:* W. (Bill) Hawkins. *Salesmen:* Don Pickering, Don Falco, Ken Douglass, Jr., Charles Fish, Lou Phillips. AREA SERVED—Massachusetts, Connecticut, Rhode Island, Maine, Vermont, New Hampshire.

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NATIONAL THEATRE SUPPLY, 37 Winchester St., Boston 16. Telephones: LIberty 2-2663 — (Emergency Night) EA 7-4362-W. PERSONNEL—*Manager:* H. J. McKinney. Lawrence Cooney, Louis A. Brown. AREA SERVED — New England States, except Connecticut.

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MacARTHUR THEATRE EQUIPMENT CO., 454 W. Columbia St., Detroit 1.

NATIONAL THEATRE SUPPLY, 2312 Cass Ave., Detroit 1. Telephones: WOodward 1-2447-8-9—(Emergency Night) Logan 2-7480, Kenwood 3-0447, Logan 3-2276. PERSONNEL — *Manager:* C. Williamson. *Salesmen:* Eugene Duffield, Clarence Rowston. AREA SERVED—Michigan.

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*FOSTER SEATING & SUPPLY CO., 71 Glenwood Ave., Minneapolis 3. Telephones: BRidgeport 1722—(Emergency Night) LOcust 1675. PERSONNEL—*Owner and Manager:* E. W. Foster. AREA SERVED—Minnesota, North and South Dakota, Western Wisconsin, Northern Iowa.

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NATIONAL THEATRE SUPPLY, 223 W. 18th St., Kansas City 8. Telephones: HArrison 3256 — (Emergency Night) JAckson 8082. PERSONNEL — *Manager:* Arthur de Stefano. *Order Desk:* Carl Whitney. *Store Sales:* Howard Burris. *Representative:* Robert E. Smith. AREA SERVED—Kansas, Western Missouri.

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PERKINS THEATRE SUPPLY CO., 505 Pearl St., Buffalo, N. Y. Telephones: Mohawk 5431—(Emergency Night) Parkside 3122. PERSONNEL—*Manager:* Carl E. Bell. AREA SERVED—Western New York State, Pennsylvania.

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AMUSEMENT SUPPLY CO., INC., 341 W. 44th St., New York 18. Telephones: CIrcle 6-0850—(Emergency Night) IN. 2-6691. PERSONNEL—*President:* Joseph J. Pear. *Salesmen:* Harry E. Pear, Henry Dieter. *Counter Man:* Seymour Rindner. AREA SERVED — Metropolitan Area, Northern New Jersey, Southern New York State.

CAPITOL MOTION PICTURE SUPPLY CORP., 630 Ninth Ave., New York 36. Telephone: PLaza 7-4510. PERSONNEL—*President:* Ben Perse. *Vice-President:* Harry Perse. *Sales Engineer:* Jack Schaffer. *Counter Men:* Sam Ochs, Peter Braut. AREA SERVED—Southern New York State, Pennsylvania, New Jersey, Ohio.

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CHARLOTTE THEATRE SUPPLY, 116 S. Poplar St., Charlotte. Telephones: 3-9369, 6-1452 — (Emergency Night) 7-1210, 2-3527. PERSONNEL — *Manager:* F. M. Strange. *Sales Representatives:* Dick Douglas, Charles Duncan.

DIXIE THEATRE SUPPLY CO., 213 West 3rd St., Charlotte 1. Telephones: 2-4343 —(Emergency Night) 2-3039. PERSONNEL —*Owner:* J. B. Erskine. AREA SERVED–North and South Carolina.

NATIONAL THEATRE SUPPLY, 304 S. Church St., Charlotte 1. Telephones: 2-7753, 2-7754—(Emergency Night) 6-2850, 2-4402, 4-4395, 3-4572, 4-8372. PERSONNEL — *Manager:* R. D. Turnbull. *Salesmen:* A. R. Coskrey, C. G. Lawing, C. R. Dillon. *Service Engineer:* D. K. Chastain. *Counter Man:* Sam Parris. *Cashier:* Joyce Hamrick. *Secretary:* Joan Austin. AREA SERVED—North and South Carolina.

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STANDARD THEATRE SUPPLY CO., 219 S. Church St., Charlotte. Telephone: 5-6008. PERSONNEL—*Owner:* Phil Wicker. *Manager:* Dean Phillips. *Salesmen:* Donald Swett, Sonny Bell, John Baxter. AREA SERVED—North and South Carolina, Southern Virginia. *(See listing for Greensboro store on this page.)*

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STANDARD THEATRE SUPPLY CO., 215 E. Washington St., Greensboro Telephones: 6165, 6166—(Emergency Night) 7281, 8022. PERSONNEL — *Owner:* Phil Wicker. *Manager:* Lawson Runkin. *Service Engineer:* J. W. Markham. *Salesmen:* Lloyd Parson, Kermit Clark. AREA SERVED—North and South Carolina, Southern Virginia.

*THEATRE EQUIPMENT CO., 111 Edwards Place, Greensboro.

*THEATRE SUPPLIERS, INC., 3101 High Point Rd., Greensboro. PERSONNEL—*Secretary-Treasurer:* R. O. Holland. *Vice President and Service Manager:* Ed Harrison. AREA SERVED—North and South Carolina, Lower Virginia.

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*McCARTHY THEATRE SUPPLY CO., 67 N. 4th St., Box 32, Fargo.

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AKRON THEATRE SUPPLY CO., 120 E. Market St., Akron 8. Telephone: Franklin 2480. PERSONNEL — *Owner:* Harry P. Jones. *Counter Men:* Allan R. Benson, Robert E. Jones. AREA SERVED—Northern Ohio, Western Pennsylvania.

*CINCINNATI THEATRE SUPPLY CO., INC., 3601 Epworth Ave., Cincinnati. PERSONNEL—*President:* Louis Wetzel. *Secretary:* Carl Reif.

*MID-WEST THEATRE SUPPLY CO., INC., 1638 Central Parkway, Cincinnati 10. Telephones: CHerry 7724-25 (24 hour service). PERSONNEL — *Owners:* H. B. Snook, *President;* T. M. Fisher, *Secretary-Treasurer. Salesmen:* R. H. Stimpert, H. N. Schoo. AREA SERVED — Southern Ohio, Kentucky, Southern West Virginia.

NATIONAL THEATRE SUPPLY, 1637 Central Parkway, Cincinnati 14. Telephones: Main 6580-81. PERSONNEL — James A. Conn, E. C. Novak, Fred Barthel, Ruth Wagner. AREA SERVED—Southern Ohio, West Virginia, Kentucky.

THEATRE EQUIPMENT CO. OF CINCINNATI, 1714 Logan St., Cincinnati. PERSONNEL—*Manager:* Orville C. Well-.

*CLEVELAND PROJECTOR CO., 726 Film Building, 2108 Payne Ave., Cleveland 14. Telephone: Main 6286.

NATIONAL THEATRE SUPPLY, 2128 Payne Ave., Cleveland 14. Telephones: PRospect 1-4613-4—(Emergency Night) Longacre 1-7608. PERSONNEL—*Manager:* Frank J. Masek. *Salesman:* Wm. C. Stahl. *Counter Man:* Miles Mutchler. AREA SERVED—Northern Ohio.

OHIO THEATRE SUPPLY CO., 2108 Payne Ave., Cleveland 14. Telephones: PRospect 1-4743—(Emergency Night) EVergreen 1-0376. PERSONNEL—*Owner:* Ben L. Ogron. AREA SERVED — Cleveland Exchange Territory.

OLIVER THEATRE SUPPLY CO., INC., E. 23rd & Payne Ave., Cleveland 14. Telephones: TOwer 1-6934-35 — (Emergency Night) ACademy 1-5362. PERSONNEL—*Manager:* M. H. Fritchle. *Salesman:* Nick Lubich. *Office Manager:* Mrs. Helen Albertson. AREA SERVED — Northern Half of Ohio.

*MID-WEST THEATRE SUPPLY CO., INC., 862 W. 3rd Ave., Columbus.

DAYTON THEATRE SUPPLY CO., 111 Volkenand St., Dayton 10. Telephone: Kenmore 5821. PERSONNEL—*Owner and Manager:* Charlie D. Wall. AREA SERVED—Southwest Ohio, Eastern Kentucky.

AMERICAN THEATRE SUPPLY CO., 439 Dorr St., Toledo 2. Telephones: MAin 1830 —(Emergency Night) LAwndale 5666. PERSONNEL—Paul S. Hueter.

THEATRE EQUIPMENT CO., 1206 Cherry St., Toledo 2. Telephones: ADams 8107-8. PERSONNEL—*Owner:* Al Boudouris. *Sales Representatives:* James Bryant, R. Caves. AREA SERVED—Ohio, Indiana, Michigan.

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CENTURY THEATRE SUPPLY CO., 706 W. Grand, Ave., Oklahoma City. Telephones: RE 6-8709—(Emergency Night) JA 5-6619, JA 8-8796. PERSONNEL—*Owner:* Byron Savage. AREA SERVED—Oklahoma, Texas Panhandle.

*W. R. HOWELL, 12 S. Walker St., Oklahoma City 4.

NATIONAL THEATRE SUPPLY, 700 W. Grand Ave., Oklahoma City 2. Telephones: CE 2-0203—(Emergency Night) JA 8-2476, JA 4-0394, JA 5-5809. PERSONNEL—*Manager:* J. I. Watkins. *Salesmen:* Howard Nelson, Corle Pierce. AREA SERVED—Oklahoma and Panhandle of Texas.

OKLAHOMA THEATRE SUPPLY CO., 623 W. Grand Ave., Oklahoma City 2. Telephones: REgent 6-8691—(Emergency Night) JA 8-7820. PERSONNEL—*Owners:* J. Eldon Peek and Maxine Peek. *Counter Man:* M. F. Bailey. AREA SERVED—Oklahoma, Panhandle District of Texas, Western Arkansas.

OREGON

*PORTLAND MOVING PICTURE MACHINE CO., 916 N. W. 19th Ave., Portland 9. Telephone: CApitol 4367. PERSONNEL—*Owner:* Pete Sabo. *Salesman:* V. L. Beck. AREA SERVED—Oregon, Southern Washington.

B. F. SHEARER CO., 1947 N. W. Kearney St., Portland 9. Telephones: ATwater 7543—(Emergency Night) GArfield 7603, VErmont 1274. PERSONNEL—*Branch Manager:* E. H. Holland. *Engineer:* H. L. Thomas. *Counter Man:* Dan Stitt. AREA SERVED — Oregon, Southern Idaho.

THEATRE UTILITIES SUPPLY CO., 1987 N. W. Kearney St., Portland 9. Telephones: BEacon 4488 — (Emergency Night) TR 9446. PERSONNEL—*Partnership:* H. S. McLeod, E. C. Stewart. AREA SERVED—Oregon and Washington.

INTER-STATE THEATRE EQUIPMENT CO., 1923 N.W., Kearney St., Portland 9. Telephone: BEacon 7800. AREA SERVED—Oregon, Washington, Idaho.

PENNSYLVANIA

PERKINS THEATRE SUPPLY CO., Box 87, Danville. Telephone: 996W. PERSONNEL—*Salesman:* Harold E. Bell. AREA SERVED — Pennsylvania, Western New York State.

VINCENT M. TATE THEATRE EQUIPMENT, 1618-20 Wyoming Ave., Forty-Fort, Wilkes-Barre. *(See display listing on this page.)*

BLUMBERG BROS., INC., 1305-07 Vine St., Philadelphia 7. *(See display listing on this page.)*

NATIONAL THEATRE SUPPLY, 1225 Vine St., Philadelphia 7. Telephones: LOcust 7-6156-7—(Emergency Night) GReenwood 3-7678. PERSONNEL—*Manager:* William J. Hutchins. *Salesmen:* Mickey Lewis, Bud Miller. *Counter Man:* George Lewis. *Shop Mechanic:* Ed Humphries. AREA SERVED — Eastern Pennsylvania, Delaware, Southern New Jersey.

* Listing not confirmed by Supply Dealer

VINCENT M. TATE THEATRE EQUIPMENT, 1618-20 Wyoming Ave., Forty-Fort, Wilkes-Barre. Telephone: Wilkes-Barre 7-2096. PERSONNEL—*Owner:* Vincent M. Tate. *Salesman:* John P. Bethell. *Shop and Store:* Norman Saunders. AREA SERVED—Phila. Film Territory.

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BLUMBERG BROS., INC., 1305-07 Vine St., Philadelphia 7. Telephones: LOmbard 3-7240-41 — (Emergency Night) Welsh Valley 4-4920 or 4-5368. PERSONNEL — *President:* Harry Blumberg. *Secretary and Treasurer:* Ben Blumberg. *Service Men:* Joe Haggerty (Nite Phone — GReenwood 3-9207), Leon Miller (Nite Phone — TRinity 7-1898), Irv Goldeberg (Nite Phone — GReenwood 3-7171). AREA SERVED — Pennsylvania, Delaware, New Jersey.

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ALEXANDER THEATRE SUPPLY, INC., 84 Van Braam St., Pittsburgh 19. *(See display listing on this page.)*

ATLAS THEATRE SUPPLY CO., 402 Miltenberger St., Pittsburgh 19. Telephones: GRant 1-4281 — (Emergency Night) PE. 1-6330. PERSONNEL—*President and Manager:* Gordon O. Gibson. *Salesman:* James M. Gibson. *Sound Engineer:* Eugene Naccarato. AREA SERVED — Pittsburgh Film Territory.

NATIONAL THEATRE SUPPLY, 1721 Blvd. of the Allies, Pittsburgh 19. Telephone: GRant 1-4630. PERSONNEL—*Manager:* N. F. Williams. *Salesmen:* H. W. Russell, P. E. Baracca. AREA SERVED—Western Pennsylvania, Northern West Virginia.

ALEXANDER THEATRE SUPPLY, INC., 84 Van Braam St., Pittsburgh 19. Telephones: (Day and Night) EXpress 1-0777-78. PERSONNEL — *President:* T. F. McCleary. *Vice President:* S. A. Fineberg. *Secretary and Treasurer:* James H. Alexander. *Sales:* H. D. Putnam, Edw. Chorle. *Secretary:* Rosa Eardley. AREA SERVED—Western Pennsylvania and Northern West Virginia.

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TRIO AMUSEMENT CO., 229 North Main St., Box 394, Greenville. Telephones: 2-7111, 2-7401 — (Emergency Night) 3-2193. PERSONNEL — *Owner and Manager:* Ed C. Curdts. *General Manager:* Fred S. Curdts. AREA SERVED — South Carolina, North Carolina.

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AMERICAN THEATRE SUPPLY, 316 S. Main Ave., Sioux Falls. Telephones: 2-1851, 2-9072. PERSONNEL—*Owner and Manager:* A. E. Trotzig. *Service Engineer:* E. Robbins. AREA SERVED—South Dakota, Southwestern Minnesota, Northwestern Iowa.

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NATIONAL THEATRE SUPPLY, 412-414 S. 2nd St., Memphis 2. Telephones: 5-6616—(Emergency Night) 2-8843, 4-2754, 36-3066, 2-3725. PERSONNEL — *Manager:* R. L. Bostick. *Assistant Manager:* C. C. Bach. *Salesman:* C. E. Sumner. *Service Engineer and Salesman:* O. O. Bland. *Counter Salesmen:* C. E. Matthews, Ralph W. Bell, Robert W. Lane. AREA SERVED—Western Tennessee, Arkansas, Northern Mississippi, Southeastern Missouri.

MONARCH THEATRE SUPPLY, INC., 492 S. Second St., Memphis 2. Telephone: 37-4584—(Night and Sunday 36-7943, 36-2449. PERSONNEL—*President:* N. B. Blount. *Manager:* L. A. Mitchell, Sr. AREA SERVED—Tennessee, Arkansas, Mississippi.

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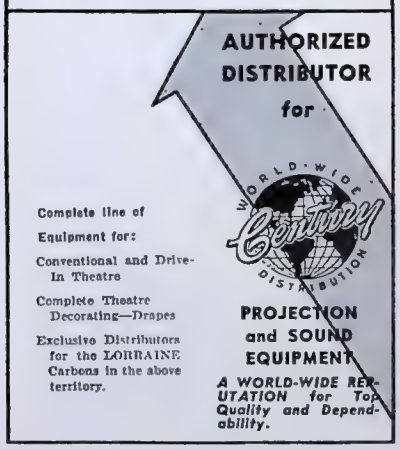

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HARDIN THEATRE SUPPLY CO., 714 S. Hampton Road, Dallas 11. *(See display listing on this page.)*

HERBER BROS., 408 S. Harwood St., Dallas 1. Telephone: RI 3553. PERSONNEL—*Partners:* E. P. and B. G. Herber. *Shop Foreman:* D. O. Hulse. AREA SERVED—Texas, Louisiana, Oklahoma, New Mexico, and part of Mexico.

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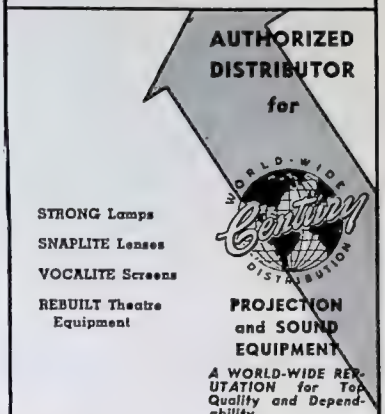
HARDIN THEATRE SUPPLY CO., 714 S. Hampton Road, Dallas 11. Telephone: Woodlawn 2235 (24 hour service). PERSONNEL—*Owner:* J. H. Hardin. *Office Manager:* Paul W. Humphries. *Salesman:* Otto Akin. AREA SERVED—Texas, New Mexico, Oklahoma, Louisiana, Arkansas.



MODERN THEATRE EQUIPMENT CO., 1916 Jackson St., Dallas. Telephones: Riverside 5009—(Emergency Night) Woodlawn 2547. PERSONNEL—*Owner:* H. S. Sorenson. AREA SERVED—Texas.

NATIONAL THEATRE SUPPLY, 300 S. Harwood St., Dallas 1. Telephone: Sterling 2135-36. PERSONNEL—*Manager:* F. R. Hansen. *Assistant Manager:* S. M. Berry. *Salesmen:* H. A. Moore, W. T. Strother, E. H. Cernosek. *Cashier:* V. P. White. *Repair Dept.:* L. H. Walters. AREA SERVED—Texas.

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INDEPENDENT FILM EXCHANGE, 216 University Ave., San Antonio. Telephone: P-7501 (Day or Night)—PERSONNEL—*Owner and Manager:* R. W. Barron. *Saleswoman:* Mrs. Mae Head. *Mechanic:* Jack Vandevere. AREA SERVED—Texas.

UTAH

INTER-MOUNTAIN THEATRE SUPPLY CO., 264 E. First South St., Salt Lake City 1. Telephone :4-7821. PERSONNEL—*Manager:* Philip S. Guss. *Office Manager:* Chas. H. Lloyd. *Purchasing:* Ray Miller. *Shop Foreman:* L. Gerber. *Shipping:* Eddie Harrison.

SERVICE THEATRE SUPPLY CO., 256 E. First South St., Salt Lake City 1. Telephones: 5-1223—(Emergency Night) Holladay 87-1261, Salt Lake 5-6990. PERSONNEL—*President:* O. J. Hazen. *Vice-President:* A. C. Knox. *Installation:* Kent Robinson. *Shipping:* Ken Jones. *Sales and Service:* John Bugger, Bus Campbell. *Secretary:* Barbara Foote. *Accounting:* S. Searcy. AREA SERVED—Salt Lake Film Exchange Territory.

WESTERN SOUND & EQUIPMENT CO., 264 East First South St., Salt Lake City. Telephones: 3-9974 — (Emergency Night) 6-1532. PERSONNEL — *President:* Ted Lewis. *Vice-President:* Ned Fuller. AREA SERVED — Utah, Idaho, Western Wyoming, Eastern Nevada.

VIRGINIA

NORFOLK THEATRE SUPPLY CO., 2706 Colley Ave., Norfolk 8. Telephones: 5-3819 (Emergency Night) 5-1744, 3-5337. PERSONNEL — *Owner:* Morris Ornoff. *Office Manager:* Jerry Ornoff. *Bookkeeper:* Renee Ornoff.

PERDUE CINEMA SERVICE, 36 Kirk Avenue S.W., Roanoke. Telephones: 2-8817 — (Emergency Night) 4-2789. PERSONNEL —*Manager:* Roscoe E. Perdue. *Salesmen:* Doug Fleming, Nat Tanner. AREA SERVED —Western Virginia.

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AMERICAN THEATRE SUPPLY CO., INC., 2300-1st Ave. at Bell St., Seattle 1. Telephones: SEneca 4572, VErmont 6662. PERSONNEL — *President:* R. E. W. Fairleigh. *Treasurer:* A. L. Hansen. *Sales Manager:* Richard Fairleigh. AREA SERVED — Pacific Northwest and California.

MODERN THEATRE SUPPLY CO., 2400-3rd Ave., Seattle 1. Telephone: SEneca 2515. PERSONNEL—*Manager:* S. F. Burns, AL. 1007. *Salesmen:* L. W. Scott, KE. 7823, *Portland, Ore.:* J. D. Peterson, BR. 7311. AREA SERVED — Washington, Oregon, Montana, Idaho, Alaska.

NATIONAL THEATRE SUPPLY, 2319 2nd Ave., Seattle 1. Telephones: MAin 3121-3122—(Emergency Night) PLaza 5743, SUnset 4220. PERSONNEL—*Manager:* Oscar L. Chiniquy. *Assistant Manager:* Harry L. Plunkett. *Salesmen:* Donald G. Farnham, Cecil Thompson. AREA SERVED—Washington, Oregon, Montana, Idaho, Alaska.

B. F. SHEARER COMPANY, 2318 2nd Ave., Seattle 1. Telephones: ELiot 8247—(Emergency Night) EMerson 0088, ALder 6389, VErmont 1421, AValon 5812. PERSONNEL — *Vice President and Manager:* T. L. Shearer. *Salesmen:* R. A. Brobeck, C. H. Beresford, F. T. Lay, Dan E. McGill, B. F. Shearer, Jr., B. R. Doud. AREA SERVED—Montana, Washington, Panhandle of Idaho, Territory of Alaska.

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CHARLESTON THEATRE SUPPLY CO., 506 Lee St., Charleston 21 Telephones: 34-413 — (Emergency Night) 21-045. PERSONNEL—*Owner and Manager:* N E. Merhie. *Salesman:* Albert E. Merhie. AREA

*LITTLE MACHINE CO., INC., 1114 Central Ave., Charleston 2.

LOVETT & CO., 333 W. Pike St., Clarksburg. Telephones: Clarksburg 2-2611—(Emergency Night) 4-5931. PERSONNEL—*General Manager:* D. E. Lovett. *Sales Representative:* Gray Barker. *Office Manager:* Virginia Howell. *Service Dept.:* Harry Carper. *Mascot:* "Maisie." AREA SERVED—West Virginia, Virginia, Maryland, Pennsylvania.

VETERANS ELECTRICAL CONSTRUCTION & SERVICE, INC., Randolph Ave. at 3rd St., Elkins. Telephones: 832—(Emergency Night) 1543W. PERSONNEL—*Manager, Theatre Equip. Sales:* Paul J. Zofsak. AREA SERVED—West Virginia.

*THEATRE SERVICE & SUPPLY CO., 1019 Tenth St., Huntington.

WISCONSIN

VIC MANHARDT CO., INC., 1705 W. Clybourn St., Milwaukee 3. Telephones: DIvision 2-8344-45 — (Emergency Night) Bluemond 8-4935, HIlltop 5-0415. PERSONNEL—*President:* Victor R. Manhardt. *Salesmen:* Richard V. Manhardt, Elmer J. Engel. AREA SERVED—Milwaukee Film Territory, Northern Wisconsin, Upper Michigan.

NATIONAL THEATRE SUPPLY, 1027 N. 8th St., Milwaukee 3. Telephones: BRoadway 1-7333 — (Emergency Night) Hilltop 4-1223, Division 2-8184, Spring 4-6405. PERSONNEL—*Manager:* A. J. Larsen. *Office Manager:* M. Anacker. *Serviceman:* F. J. Wagner. AREA SERVED—Milwaukee Exchange Territory, Upper Michigan.

THE RAY SMITH COMPANY, 710 W. State St., Milwaukee 3. Telephones: BRoadway 1-2100—(Emergency Night) FRanklin 4-3744. BRoadway 6-0579. PERSONNEL—*Owner:* Ray A. Smith. *Office Manager:* Jerome P. Kurz. *Service Man:* Alex Zsebe. AREA SERVED — Wisconsin, Northern Michigan.

THEATRE EQUIPMENT & SUPPLY CO., 1009 N. 7th St., Milwaukee 3. Telephones: BRoadway 6-0123—(Emergency Night) EDgewood 2-4686. PERSONNEL—*Manager:* H. R. Vogel. AREA SERVED—Wisconsin, Upper Peninsula of Michigan.

STAR THEATRE SUPPLY CO., 36 N. Cascade St., Osceola. PERSONNEL—*Manager:* Emil A. Nelson.

Supply Dealers of the Dominion of Canada

Comprehensive Listing of Names, Addresses, Personnel, Products, and the Areas Served

ALBERTA

DOMINION SOUND EQUIPMENTS LTD., 712 8th Ave., W., Calgary. Telephone: 29947. PERSONNEL — *Manager:* W. F. Graham. *Theatre Equip. Sales and Service:* R. E. Gordon. *Sound Systems Equip. Sales:* R. K. Peck. *Acoustical Sales:* R. L. Gale. AREA SERVED—Alberta.

SHARP'S THEATRE SUPPLIES, LTD., Film Exchange Bldg., Calgary. Telephones: 24076, 27266 — (Emergency Night) 30757, 83246. PERSONNEL — *Manager:* W. G. Sharp. *Service Engineer:* A. E. Sick. *Salesman:* D. N. Rhodes. AREA SERVED — Alberta, Saskatchewan, Eastern British Columbia.

M. L. ADAMSON, 9921 - 113th St., Edmonton.

DOMINION SOUND EQUIPMENTS, LTD., 10705 - 106th St., Edmonton. Telephone: 42511. PERSONNEL—*Acoustical Sales:* A. T. Linden. *Theatre Equip. Sales and Service:* R. F. Downing. AREA SERVED—Alberta and Eastern British Columbia.

J. M. RICE & CO., LTD., 10911 - 116th St., Edmonton. PERSONNEL—*Manager:* Edwin Haugen. AREA SERVED — Alberta and Western Saskatchewan.

* Listing not confirmed by Supply Dealer

BRITISH COLUMBIA

DOMINION SOUND EQUIPMENTS LTD., 820 Cambie St., Vancouver. Telephones: Ma. 2181-82—(Emergency Night) Pa. 4231. PERSONNEL—*District Manager:* L. G. Sigurdson. *Engineer:* R. H. Williams. *Salesman:* R. C. Benton. AREA SERVED — British Columbia, Vancouver Island.

DOMINION THEATRE EQUIPMENT CO., Ltd., 847 Davie St., Vancouver. Telephones: Ma. 6634 (Emergency Night) Cherry 1298. PERSONNEL—*President:* D. V. K. Fairleigh. *Sales Manager:* C. M. Rae. *Counter Man:* G. A. Simmons. AREA SERVED—All of Canada.

*GENERAL THEATRE SUPPLY CO., LTD., 914-16 Davie Street, Vancouver. Telephones: MArine 7933, MArine 5449. PERSONNEL—*Branch Manager:* W. "Bill" Forward. *Service Engineer:* W. Moorhouse. *Counter:* D. Graham, W. McLean. AREA SERVED — British Columbia, Yukon Territory.

H. I. HOWARD THEATRE EQIUP. & SUPPLY CO., 906 Davie St., Vancouver.

LA SALLE RECREATIONS, LTD. (Theatre Chair, Carpet & Linoleum Div.), 945 Granville St., Vancouver. Telephones: MA 5034, MA 5428—(Emergency Night) CE. 3929. PERSONNEL—*President and Managing Director:* S. A. Lechtzier. *Vice-President:* M. R. Lechtzier. AREA SERVED — Entire Dominion of Canada.

PERKINS ELECTRIC CO., LTD., 839 Davie St., Vancouver 1. Telephone: Tatlow 7633. PERSONNEL — *Branch Manager:* S. G. Wilson.

THEATRE EQUIPMENT SUPPLY CO., 906 Davie St., Vancouver. Telephones: MArine 7033—(Emergency Night) KE 3427R. PERSONNEL—*Owner:* H. I. Howard. *Sales and Service:* Bob Holm. *Counter Man:* E. R. Petch. AREA SERVED—British Columbia, Alberta, Yukon.

MANITOBA

DOMINION SOUND EQUIPMENTS LTD., 218-222 Fort St., Winnipeg. Telephone: 923-529. PERSONNEL—*District Manager:* R. R. Huston. *Sales and Service:* E. J. Blaney, W. M. Tulloch. *Acoustical Sales:* G. R. Steffens. AREA SERVED—Western Ontario, Manitoba, Saskatchewan.

GENERAL THEATRE SUPPLY CO., LTD., 271 Edmonton St., Winnipeg. Telephone: 92-5795. PERSONNEL — *Branch Manager:* Charles Maybee. *Sound Engineers:* H. B. Grimes, V. Lawrick. *Alberta Rep.:* R. Townsend. AREA SERVED—Manitoba, Saskatchewan, Alberta, Northern Ontario.

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PERKINS ELECTRIC CO., LTD., 164 Leslie Ave., Moncton. Telephone: 2-3239. *Manager:* Hector Beaulieu. AREA SERVED—Maritime Provinces and Newfoundland.

DOMINION SOUND EQUIPMENTS LTD., 4 Hazen Ave., St. John. Telephones: 3-3031 —(Emergency Night) 3-7327. PERSONNEL —*Manager:* J. E. Tagg. *Service Engineer:* N. L. Smith. *Salesman:* C. L. Johnston. AREA SERVED—New Brunswick.

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DOMINION SOUND EQUIPMENTS LTD., 270 MacLaren St., Ottawa. Telephone: 20303. PERSONNEL—*Salesman:* D. E. Neill.

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GENERAL THEATRE SUPPLY CO., LTD., 861 Bay St., Toronto. Telephone: EM 4-9307. PERSONNEL — *President:* P. D. Brown. *Supervisor Sound:* G. Cuthbert. *Supervisor Projection:* T. Hoad. *Sales Engineer:* P. R. Hayes. AREA SERVED—Ontario.

PERKINS ELECTRIC CO., LTD., 277 Victoria St. Toronto. Telephones: EMpire 4-6243 — (Emergency Night) EMpire 4-6243. PERSONNEL—*Manager:* R. V. Shale. *Salesmen:* A. A. Richardson, W. Walterhouse. *Sound Division:* W. Fitten, K. Johnston, F. Demsar. *Counter Men:* M. Ashbee, S. Parker. *Shippers:* D. Casemore, T. McBride. AREA SERVED—Ontario.

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DOMINION SOUND EQUIPMENTS LTD., 4040 St. Catherine St., W. Montreal 6. Telephone: FItzroy 9663. PERSONNEL—*Vice-President and General Manager:* F. E. Peters. *General Sales Manager:* Lloyd C. Pearson. *District Manager:* H. S. Walker. *Manager, Equipment Sales and Service:* P. L. Keppie. *Salesmen:* A. Lalumiere, J. J. Kilcullen.

GENERAL THEATRE SUPPLY CO., LTD., 288 St. Catherine St., W., Montreal 18. Telephone: Plateau 3438 (Day and Night). PERSONNEL—*Branch Manager:* H. H. Burko. *Sound Engineers:* Jean Lajeunie, P. Galliard, J. H. Hewson. *Office Manager:* L. J. Davis. *Salesman:* R. Bousquet. AREA SERVED—Quebec, Eastern Ontario.

PERKINS ELECTRIC CO., LTD., 1197 Phillips Place, Montreal 2. Telephones: LAncaster 2154-2157 (Day and Night) LAncaster 2154. PERSONNEL—*Vice-President and General Manager:* L. M. Bleackley. *Sales* Manager: Armand Besse. Servicemen: G. Nadeau, W. J. Hewson, T. Wallace, N. Verville, L. Northrup. *Shipper:* R. Lemieux. *Controller:* J. G. Elliott. AREA SERVED — Quebec.

*RCA VICTOR CO., LTD., 1001 Lenoir St., Montreal 30. Products Sold: RCA Theatre and Sound Equipment.

DOMINION SOUND EQUIPMENTS LTD., 1299 Blvd. Charest, Quebec, P. Q. Telephone: 7-3572. PERSONNEL—*Sales-Service:* J. M. Coté, J. M. Laliberté.

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WESTREX CO., FRANCE-BELGIUM, 47 Rue Michelet, Algiers. Products Sold: Westrex Corp. line. COUNTRIES SERVED —Algeria, Tunisia and Morocco.

WESTREX CO., FRANCE-BELGIUM, Impasse Thierry, Oran. Products Sold: Westrex Corp. line.

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CIA COMERCIAL CONDOR, Sarmiento 2149, Buenos Aires. PERSONNEL—Carlos Glucksmann. Products Sold: National Theatre Supply Line.

RCA VICTOR ARGENTINA, P. O. Box 4400, Bine. Mitre 1961, Buenos Aires. Products Sold: Theatre and Sound Equipment, Sound Recording Equipment, Theatre Television.

WESTREX CO., ARGENTINA, Rodriquez Pena 370, Buenos Aires. Products Sold: Westrex Corp. line. COUNTRIES SERVED —Argentina, Paraguay, Uruguay.

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ELECTRO AKUSTIC GES. M.B.H., Neubaugasse 2, Vienna VII. PERSONNEL—F. H. Strohmaier. Products Sold: National Theatre Supply line. COUNTRY SERVED—Austria.

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WESTREX, AUSTRALIA PTY. LTD., 24 Hunter St., Newcastle, New South Wales. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., Film House, 251A Pitt St., Sydney, New South Wales. Cable Address: Vitavox — Sydney. Telephone: M-2231. PERSONNEL—*General Manager:* A. L. Graham. *General Sales Manager:* R. C. Smith. Products Sold: Gaumont-Kalee. COUNTRIES SERVED—Australia, Tasmania.

RCA PHOTOPHONE OF AUSTRALIA, PTY., LTD., 221 Elizabeth St., Sydney, New South Wales. Products Sold: Theatre and Sound Equipment.

RAYMAC SUPPLIES, PTY., LTD., 230 and 270 Elizabeth St., P. O. Box 3787, G. P. O., Sydney, New South Wales.

WESTREX, AUSTRALIA PTY., LTD., Broughton House, 181 Clarence St., Sydney, New South Wales. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., Film Centre, Stanley St., S. Brisbane, Queensland. Telephone: J5831. PERSONNEL—*General Manager:* J. A. Welch. Products Sold: Gaumont-Kalee.

WESTREX, AUSTRALIA PTY. LTD., 167 Queen St., Brisbane, Queensland. Products Sold: Westrex Corp. line.

WESTREX, AUSTRALIA PTY. LTD., 62 Rundle St., Adelaide, South Australia. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., 91 Currie St., Adelaide, South Australia. Telephone: LA 3742. PERSONNEL—*General Manager:* J. P. Wright. Products Sold: Gaumont-Kalee.

GAUMONT-KALEE THEATRE SUPPLIES, 178-A Flinders St., Melbourne C.I., Victoria. Telephones: Central 1100, 1169, 2420. PERSONNEL—*Manager:* K. C. Oldroyd. *Salesman:* E. Manning. Products Sold: Gaumont-Kalee, Raycophone.

WESTREX, AUSTRALIA PTY. LTD., 358 Lonsdale St., Melbourne, Victoria. Products Sold: Westrex Corp. line.

CONSOLIDATED THEATRES PTY. LTD., W.A.T.C. Building, 1 Howard St., Perth, Western Australia. Telephone: BA 3648. Products Sold: Theatre Seats and Equipment.

WESTREX, AUSTRALIA PTY. LTD., 447 Murray St., Perth, Western Australia. Products Sold: Westrex Corp. line.

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BROCKLISS SIMPLEX S.A., 249 Rue Royale, Brussels. *Manager:* J. C. Van Reysschoot. Products Sold: National Theatre Supply line. COUNTRY SERVED—Belgium.

FIBROCIT, 26 Rue Masui, Brussels. Products Sold: Theatre Seats.

SOCIETE BELGE INDUSTRIELLE, S.A., 14 Square Marie-Louise, Brussels. Products Sold: RCA Theatre and Sound Equipment.

WESTREX CO., FRANCE-BELGIUM, 20 Place des Martyrs, Brussels. Products Sold: Westrex Corp. line. COUNTRIES SERVED —Belgium and Luxembourg.

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BERMUDA GENERAL THEATRES, LTD., Somers Building, Hamilton. Products Sold: National Theatre Supply Line.

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PALACIOS Y CIA, Casilla de Correo 648, La Paz. Products Sold: National Theatre Supply Line.

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R. EKERMAN, Rua Senador Dantas 76-15°, Rio de Janeiro. Products Sold: National Theatre Supply Line.

RCA VICTOR RADIO, S.A., Caixa Postal 2726, Rio de Janeiro. PERSONNEL—*Theatre Dept. Mgr.:* J. Wasser. Products Sold: Theatre and Sound Equipment. *Branches:* S. Paulo, Recife, Porto Alegre.

WESTREX CO., BRAZIL, (formerly Western Electric Co. of Brazil) Edificio Moda, 8th Floor, Rua Senador Dantas 15, Rio de Janeiro. Products Sold: Westrex Corp. line.

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WESTREX CO., ANDEAN, (formerly Western Electric Co., Andean) Edificio Sud America, Bandera Esquina Augustinas, Santiago. Products Sold: Westrex Corp. line.

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WESTREX CO., CARIBBEAN, Calle 23, No. 5-90, Bogota. Products Sold: Westrex Corp. line.

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RCA PHOTOPHONE LTD., Head Office: 36 Woodstock Grove, London, W.12. Telephone: Shepherds Bush 1200. PERSONNEL—*Managing Director:* P. A. Turnor. *Directors:* J. C. Atkinson, C. J. Bridge, W. F. Garling, C. G. Mayer, O. B. E., Sir Louis Sterling. Products Sold: Theatre and Sound Equipment.

WESTERN ELECTRIC CO., LTD. Head Office: Liberty House, 222 Regent St., London, W1. Products Sold: Westrex Corp. line.

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CROWE & CO., LTD., 52 Stowell St., Newcastle-on-Tyne. Products Sold: National Theatre Supply Line.

RCA PHOTOPHONE LTD., 36 Clayton St. W., Newcastle-on-Tyne. Telephone: Newcastle 27771. PERSONNEL—*District Manager:* R. T. Wheatley. Products Sold: Theatre and Sound Equipment.

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WESTERN ELECTRIC CO., LTD., Angel Row, Nottingham. Products Sold: Westrex Corp. line.

A. BUCKLEY, 9 Branch Road, Batley, Yorkshire. Telephones: Batley 431, Morley 902. Products Sold: Projection, Sound and Theatre Equipment.

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O. Y. FRESTA A.B., Fabiansgatan 29, Helsingfors. Products Sold: Westrex Corp. line.

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G. W. BERG & CO., 14 Fabianinkatu, Helsinki. Products Sold: RCA Theatre and Sound Equipment.

O. Y. ELECTRON A.B., P. O. Box 301, Helsinki. Products Sold: Westrex Corp. line.

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BROCKLISS SIMPLEX S.A., 295 Cours de la Somme, Bordeaux. Products Sold: National Theatre Supply Export Line.

BROCKLISS SIMPLEX S.A., 102 La Canabiere, Marseille. *Manager:* Henri Barody. Products Sold: National Theatre Export Line.

WESTREX CO., FRANCE-BELGIUM, 3 Cours Joseph Thierry, Marseille. Products Sold: Westrex Corp. line.

BROCKLISS SIMPLEX S.A., 6 Rue Guillaume Tell, Paris 17e. PERSONNEL—*General Manager:* Albert Gillet. Products Sold: National Theatre Supply Line. COUNTRIES SERVED—France, French North Africa, Switzerland, Belgium.

STE. DES THEATRES CINEMATOGRAPHIQUES PATHE, S.A., 6 Rue Francoeur, Paris 18e. PERSONNEL—J. Ottoz. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Algiers, France.

STE. d'EQUIPEMENT CINEMATOGRAPHIQUE, S.A., 61, rue Pierre Demours, Paris 17e. Telephone: MAC-Mahon 22-00. Products Sold: Gaumont-Kalee, Bell & Howell.

WESTREX CO., FRANCE-BELGIUM, 120 Avenue des Champs Elysees, Paris. Products Sold: Westrex Corp. line.

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CHARILAOS PETROPOULOS, 51 El. Venizelou Str., Athens. Products Sold: RCA Theatre and Sound Equipment.

SPYROS D. SKOURAS, 5 Santarosa St., Athens. Telephone: 21-824. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Greece.

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ADOLFO RIOS, P. O. Box 97, Guatemala City. Products Sold: RCA Theatre and Sound Equipment.

RAMIRO SAMAYOA M., Avenida Elena Sur 37-75, Cine Popular, Guatemala City. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Guatemala.

E. F. TOPPE, Callejon Castillo No. 7, Guatemala City. Products Sold: Westrex Corp. line. COUNTRIES SERVED—Guatemala, El Salvador, Honduras, and British Honduras.

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CONSOLIDATED AMUSEMENT CO., LTD., Merchandise Department, 1120 Bethel St., Honolulu 11. Telephones: (Emergency Night) 718271, 94984. PERSONNEL—*Manager Merchandise Department:* J. A. Madden. Products Sold: Simplex Projection and Sound Equipment, RCA Theatre and Sound Equipment, Heywood-Wakefield Seats.

THEATRICAL EQUIPMENT CO., 2826 S. King St., Honolulu 72. Telephones: 94287, 990958. PERSONNEL—*Business Manager:* R. H. Jackson. *Prod. Manager:* E. L. Carlson. Products Sold: B. F. Shearer Supply line AREA SERVED—Hawaiian Islands.

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ESTEVEZ Y LAZARUS CLAMER, Apartado Postal 110, Tegucigalpa. Products Sold: RCA Theatre and Sound Equipment.

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ELEPHANT RADIO & ENGINEERING, 209 Bank of East Asia Bldg., Hong Kong. Products Sold: Rebuilt, and custom made equipment, RCA Theatre and Sound Equipment, National Theatre Supply Line.

MAITLAND & CO., G.P.O. Box 2287, Hong Kong. PERSONNEL — Robert Maitland. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Hong Kong.

WESTREX CO., ASIA, 304 Victory House, Wyndham St., Hong Kong. Products Sold: Westrex Corp. line. AREA SERVED—Hong Kong and China.

MANNERS ENGINEERING, LTD., Alexandra House, Hong Kong. Products Sold: Gaumont-Kalee and Cinetechnic.

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SNORRI P. B. ARNAR, P. O. Box 354, Reykjavik. Products Sold: RCA Theatre and Sound Equipment.

INDIA

CINE SUPPLIES LTD., 5th Main Road, Gandhinager, Bangalore City. Products Sold: Gaumont-Kalee.

EVERGREEN (BANGALORE) LTD., 3 Seshadri Road, Bangalore 1. Telephone: Bangalore 2608. PERSONNEL — K. L. Bhatia. Products Sold: National Theatre Supply Line. AREA SERVED—South Indian Territory.

EVERGREEN PICTURES, Municipal Park, Bhusawal. Products Sold: National Theatre Supply Line, Victor 16 mm. Projectors.

THE CINE AGENCY (INDIA), 18 New Queen's Road, Bombay 4. Products Sold: Zeiss Ikon, Stuttgart 35 and 16mm. Cinema and Sound Projectors and Accessories.

CINEFONES, 3, New Queen's Road, Bombay 4. PERSONNEL—*Managing Partner:* S. B. Agarwal. Products Sold: Theatre Equipment and Accessories. COUNTRIES SERVED—Bombay Presidency.

EASTERN ELECTRIC & ENGINEERING Co., 129 Mahatma Gandhi Road, Post Box 459, Bombay 1.

EVERGREEN PICTURES, Post Box No. 3515, Bombay 4. PERSONNEL—S. N. Kotwal, H. C. Naterwalla, P. C. Kapadia, M. C. Kapadia, N. C. Kapadia, M. R. Kapadia, J. R. Kapadia, E. C. Naterwalla. Products Sold: Simplex XL and complete National Theatre Supply Line, Victor 16 mm. Projectors. COUNTRY SERVED—India.

GAUMONT-KALEE, LTD., Forbes Building, Home St., Bombay. Products Sold: Gaumont-Kalee.

PHOTOPHONE EQUIPMENTS, LTD., 9 Marine Lines, P. O. Box 394, Bombay 1. PERSONNEL—*Managing Director:* M. A. Fazalbhoy. Products Sold: RCA Theatre and Sound Equipment, National Theatre Supply Line, National Carbons. COUNTRIES SERVED—India, Pakistan, Burma, Ceylon, Afghanistan.

*RAVEL BROTHERS, 2/1 Prospect Chambers, 317 Hornby Road, Fort, Bombay 1

WESTREX CO., ASIA, Metro House, Esplanade Road, Bombay 1. Products Sold: Westrex Corp. line. AREA SERVED—India, Burma, Ceylon.

EVERGREEN PICTURES CORP., 11 Esplanade Row, East, Calcutta. Products Sold: National Theatre Supply Line.

GAUMONT-KALEE, LTD., Society Cinema, Corporation Place, Calcutta. Products Sold: Gaumont-Kalee.

GENERAL RADIO & APPLIANCES, LTD., 10, Old Court House Street, Calcutta 1. Telephone: City 6038. PERSONNEL—*Managing Director:* Y. A. Fazalbhoy. *Branch Manager:* D. V. J. Raju. Products Sold: RCA Theatre and Sound Equipment, National Theatre Supply Line, Strong Lamps and Rectifiers, International Seats. TERRITORIES SERVED—Provinces of West Bengal, Bihar, Orissa, Assam and Kingdom of Nepal.

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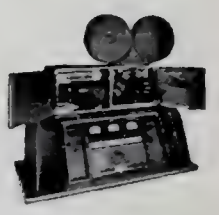

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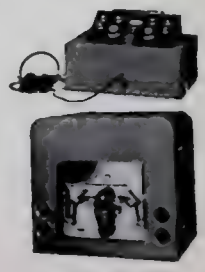

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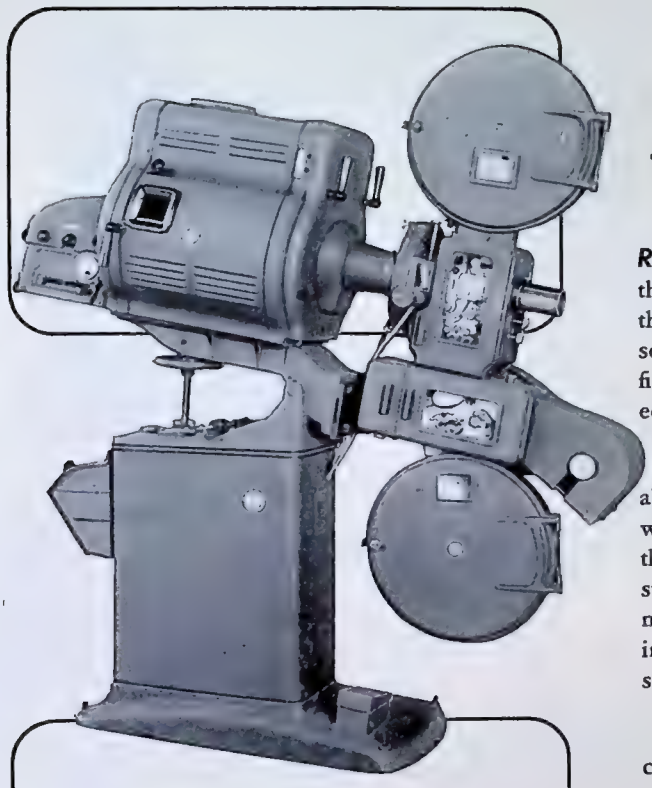

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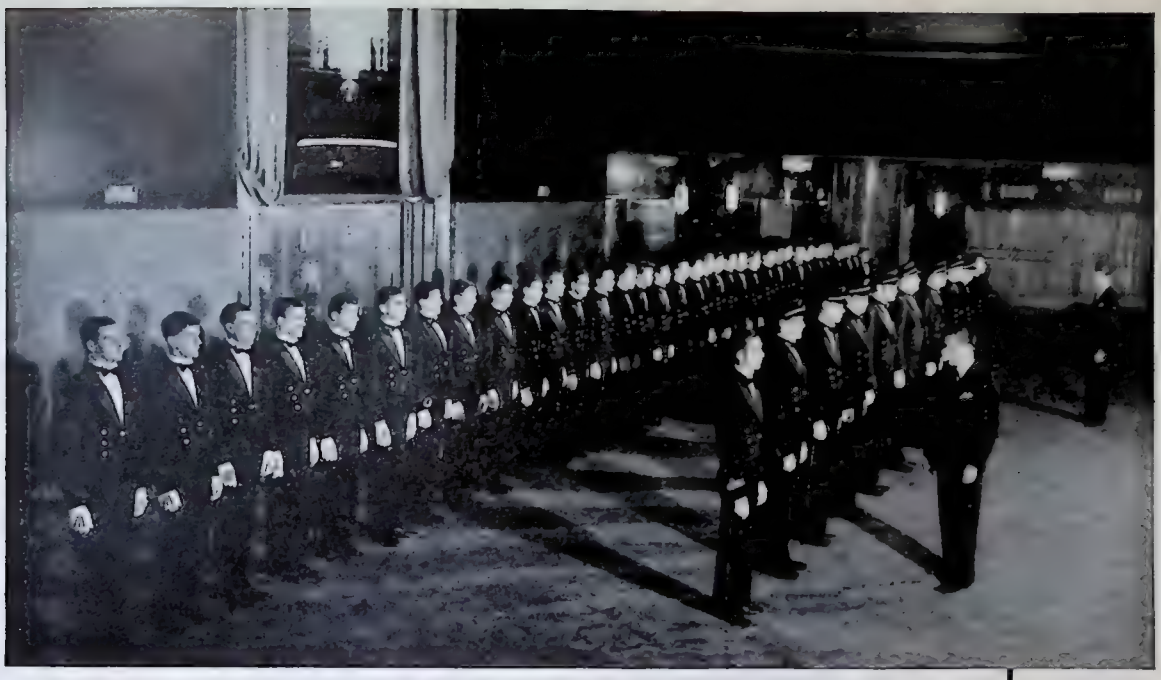

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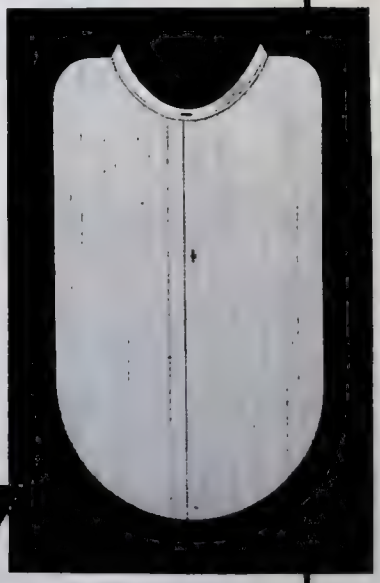

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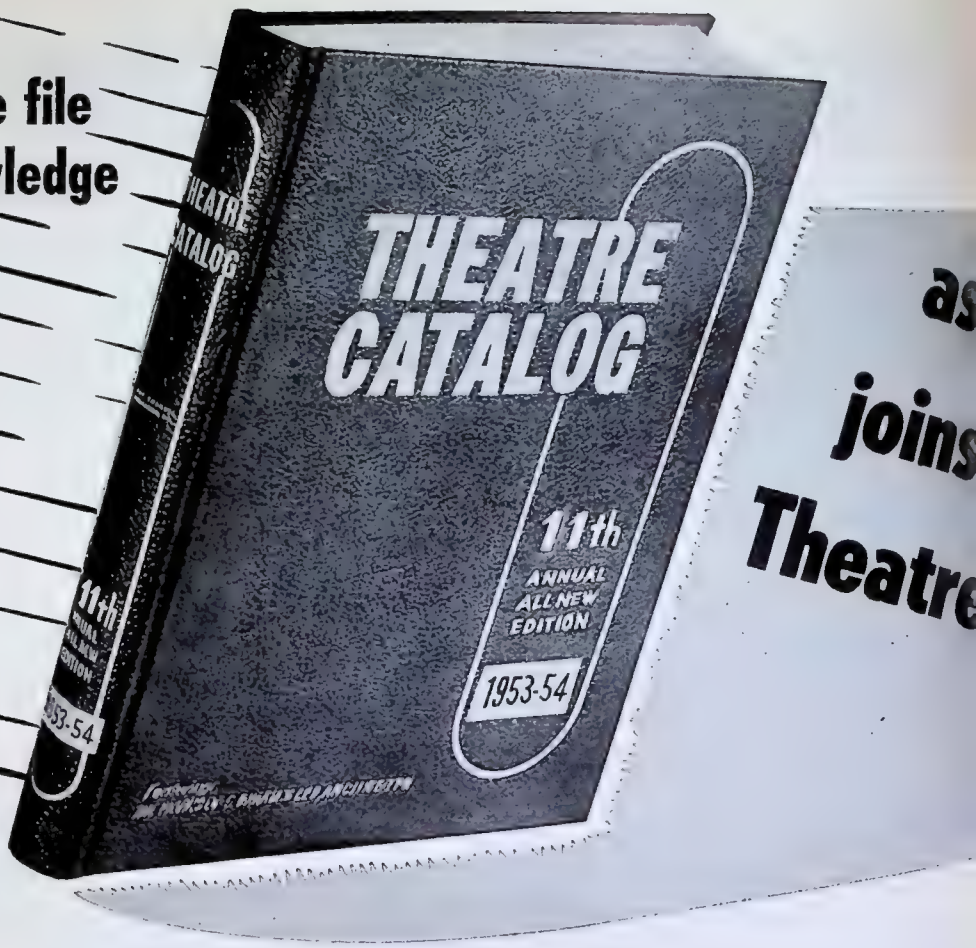

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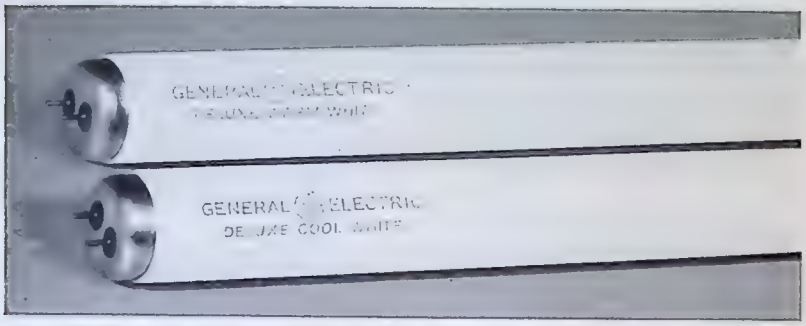

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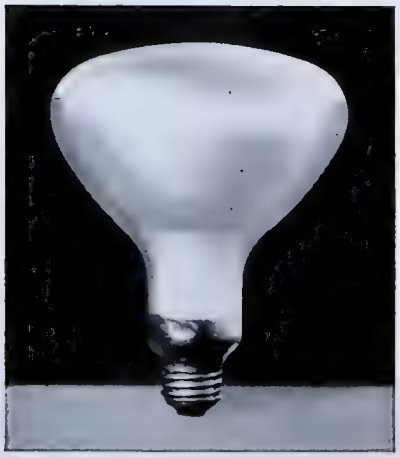

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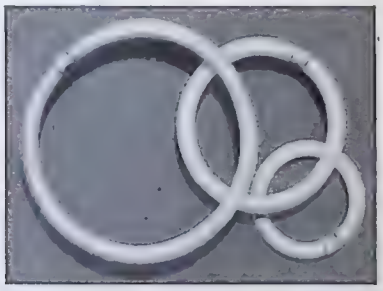

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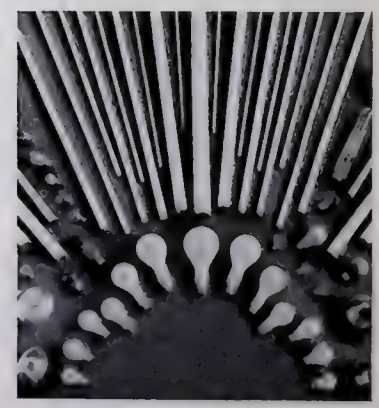

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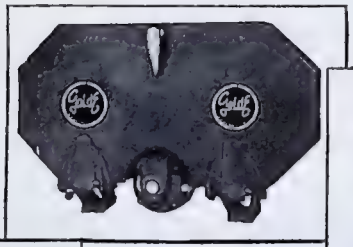

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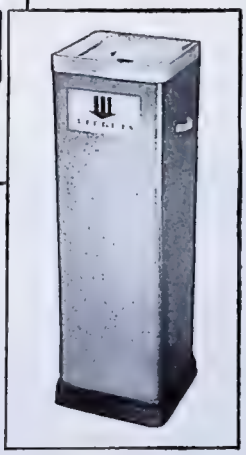

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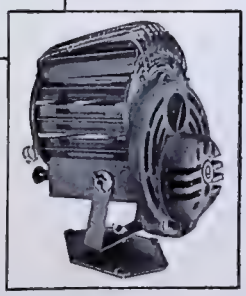

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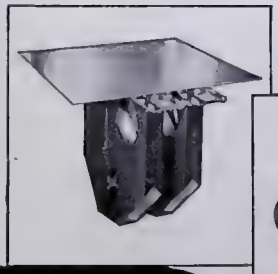

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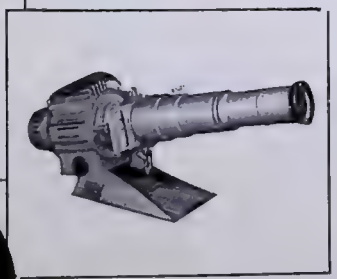

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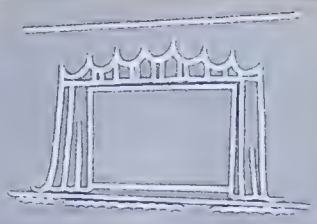

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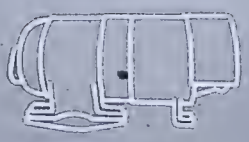

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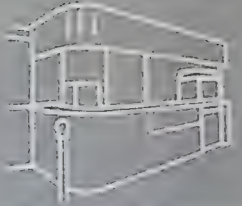

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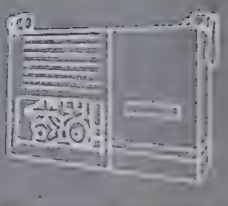

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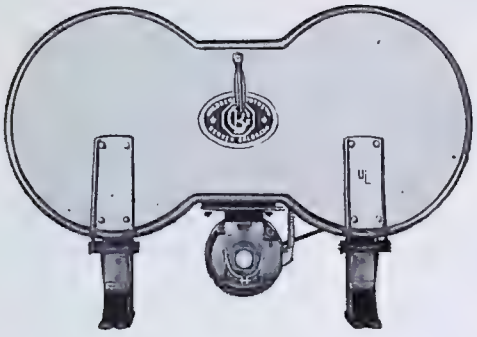

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METHODS, PRACTICES *and* MAINTENANCE

1953-54

Exhibitor Press Relations

A Veteran Movie and Newspaperman Offers Some Advice on How to Establish Better Industry Press Relations

By Dick Pitts
Director Public Relations, Theatre Owners of America

BRIEF: *How many times have exhibitors complained that the local press seems to go out of its way to stress the worst elements of the motion picture industry . . . and in this way hurt their business? Another common complaint is that motion picture critics are unfair . . . In this article the author . . . who has spent many years as a working newspaperman and a representative of the film industry . . . offers some sage advice . . . based on his own personal experiences . . . on what every theatre operator can do to get a better break on the pages of the nation's newspapers . . . The article discusses the problem from both viewpoints . . . and does much to clear up many points of misunderstanding and confusion.*

Until three years ago, I had the rather uncomfortable honor of being what, in polite circles, is called a newspaper critic. In other circles, the appellation was not quite so flattering and often contained profane words. Many of the exhibitors referred to me as "Sweet Old Boy." Some of them used just initials. All of which was a bit distressing to one who had given the best jeers of his life to the theatre.

Thus, as an objective observer for 16 years and a subjective observer for the last three years, I think that we have been so busy defending our business against the competition of television—against other demands upon the entertainment dollar, the high cost of living, installment buying, the alleged infiltration of communism, and other things, that we have hardly had time to point out to the public that the movie theatre still presents the best entertainment-buy for the money and represents a tower of strength in the welfare and well-being of every community.

Possibly most frequently overlooked is the improvement of our press relations—and, consequently, our public relations.

PUBLIC RELATIONS

We are always complaining about bad press notices, about the fact that the members of the Fourth Estate do not understand us—but—are you sure that you understand them?

Certainly, generally speaking, he knows very little about your business, your problems. But just as certainly, you know very little about his business, his problems.

The answer should be fairly simple. Get acquainted. Know each other—understand each other. Understanding invariably means good press relations, and good public relations.

And above all—please remember one thing: To a newspaper man NEWS is ALL-HOLY.

It's the nature of the beast, so to speak. And it's his job—to gather news, whether it is in the field of entertainment, politics, sports, or whathaveyou.

You can wine and dine a newspaper man and make him feel that possibly there is some compensation for his small salary after all, but, if you really want to get on the inside track with him, and with his editor, **provide him with news.** Call him on news tips, even if they don't concern your business.

As an outstanding member of your community—and if you are a good exhibitor, I am certain that you are an outstanding member—you are in a position to hear a lot of things that might make good copy for your local newspapers.

Okay—pick up the telephone and tell him about it. Let him know that you're on his side. Maybe he doesn't cover real estate, but somebody on that paper does—and if the paper scores a beat, all concerned will certainly remember the source of the tip. That's the best way I know to pave the way into the good graces of any newspaper anywhere.

However, such help, by all means, should never be used as an obvious wedge, or as a mild form of blackmail—just as you should never mention advertising to an editorial writer.

If you have news, he'll beg for it, and he'll use it—but if you want your story reduced to a few lines and buried among the obituaries, just tell him: "I have just placed a quarter-page ad in your paper and I want a nice big story." Brother, that's murder.

By the same token, if you take the guy to lunch, or buy him a quart for Christmas, make it a friendly gesture, nothing more. In fact, make friends with him, period. If you try to put it on a cash-and-carry basis, you're likely to do yourself more harm than good. Because most newspaper men have ethics, despite fiction and motion pictures to the contrary.

Prime example of the wrong approach was made to me by a distributor exploitation man.

"I know," he told me, "that you don't make a lot of money. So why don't you cash in on your job. I can always manage to slip you a couple of fins each week if you will plant some of my stuff and favor our pictures."

My reply would have to be deleted by the editor.

Another distributor field man had the more practical approach, never demanding, never begging, never offering anything that didn't have a good angle for

INFORMAL MEETINGS WITH the press, such as this group of trade reporters with producer William Pine, can be of great value in bettering public relations between the press and the nation's theatres.

the paper. Some times he'd help me dig up a story that didn't even mention his company or its product.

Be Sincere

Yours is a long-range program. You cannot afford to be insidious. You must be honest and sincere. Don't antagonize the critter. Try to educate him. Help him get the "feel" of the paying customers. Don't cry on his shoulder about trade practices or other industry problems. Don't alibi Hollywood. Don't lie. Tell him the truth—unless he is one of the snide type mugs who enjoys any form of crucifixion. Don't boot-lick the guy. Treat him as an equal, even if you don't feel that way. Honestly, basically, he's a pretty good guy—just underpaid and generally unhappy.

Don't plant resentment in him by putting him on the carpet because of a bad review. Sometimes he's right. If he is, tell him so. And, in a left-handed way, sometimes you can tell him when he's wrong. If you make it a point to know the character, you'll know when you can say something like this: "Look, Joe—

CONSTANTLY ATTACKING the press will not aid in getting critics and editors to be friendly.

you may be right, but that picture you panned is breaking house records, etc."

Another thing: "Quote" him in lobby displays and in press ads. That's a wonderful feeling to a critic, I don't care how big or how small he is. I know that I used to get a terrific charge out of walking by a theatre and seeing a lobby easel saying: "Dick Pitts says this is a 'must-see' picture," or words to that effect.

Critic Defined

Incidentally, just what is a critic? I think Joseph Pulitzer summed it up neatly: "A good critic is merely a good reporter."

However, it was Pulitzer who also said: "Accuracy is to a newspaper what virtue is to a woman."

HE'S NOT A bad guy, really—just underpaid and in many cases quite a bit misunderstood.

To me, everybody is a critic—the butcher, the baker, the candlestick-maker —all of them want to get in their two-bits worth, no matter what the subject—shoes, ships, sealing wax, cabbages, or kings.

Fortunately, in this country, everybody can be a critic without fear. Everybody can criticize anything from soup to nuts; from his neighbor's new car to his wife's new hat; from a $2,800,000,000 film industry to our umpteen-billion-dollar government—and they usually do. Just read the open forum columns of your local newspapers and you will see what I mean.

I realize that to most exhibitors and distributors, the newspaper critic is something of a prima donna. Some are, but the great majority are not. Regardless, some attention should be paid to the care and feeding of critics.

I recall a fellow critic who was always the object of scorn and vilification of two local branch managers. I did not always agree with his opinions about pictures, but I know that he tried to be fair and to give an honest report. I know that he tried to sluff off the repeated insults by the managers, but I imagine that when he reviewed their pictures, subconsciously he would be more critical than usual.

Influence

On the other hand, I have always contended that exhibitors and distributors credit critics with far more influence upon the public than they actually have, and there is plenty of evidence to prove it.

Over a period of several months I wrote a number of columns deploring the distractions of patrons eating popcorn and candy in movie theatres. Once I wrote repeatedly, "I do not like popcorn in theatres," for one whole column, some 800 words. Those were the "Hate Pitts" months along film row. The Manley Popcorn branch manager was threatening to bash in my head on sight. Yet that Christmas he presented me with a fifth of Scotch.

"My last quarter showed an increase of 20 per cent in sales," he declared. "Pretty please, continue blasting popcorn."

Conversely, a Universal director manager credited me with making boxoffice successes out of such pictures as "Seventh Veil," "Madonna of the Seven Moons," "Hamlet," and others in the Carolinas.

Sports writers seem to enjoy a prestige and authoritativeness that is denied almost all movie critics. And I doubt that the average sports writer is any better qualified to comment critically about the field he covers than the average movie critic.

Probably there is one major difference, as Spyros Skouras emphasized to me two years ago: "Most sports writers love sports, whereas most movie critics do not love the movies to the same degree." That may be stretching a point, but, by and large, too frequently it is true.

I don't think too much emphasis can be put upon "helping a reviewer get the feel of the audiences."

Eugene W. Street, who now operates a chain of theatres out of Poughkeepsie, N. Y., for Paramount, was chiefly responsible for that little "feel" I have for the paying customers.

Back in the days before trade shows, Gene and I used to open his theatre early in the morning a couple of times a week and screen up-coming pictures. He would discuss the picture's merits and how to sell it, and we would predict what sort of reception it would receive.

But I don't think I fully understood what he was driving at until I had spent three years in the Army Engineers.

A year after I had returned to my desk, Mike Kincey stopped me on the street and said: "Your reviews of pictures seem to make more sense than they used to. There is more tolerance, more understanding. I'm curious. What brought about the change?"

After a moment of honest introspection, I concluded: "Three years in the Army." And I remembered how we packed large tents in the forests of England to see the latest Hollywood product; how we watched movies in old barns and tents in Normandy battle areas, the noise of the artillery frequently drowning the movie sound; how

EXHIBITORS MAY not always agree with a review, but remember it's just one man's opinion.

we enjoyed movies even during the buzz bomb bombardments in Liege, Belgium. And I remembered how much those movies meant to all of us. Thus, I think I was helped to report more accurately the reactions of audiences.

Promotions

Now—about special tie-ups, promotional stories, etc.: Don't tap a newspaper man for space unless your gimmick is really good—unless the newspaper can come up with an excellent feature.

When a theatre manager proposed to my city editor what I write an interview with Francis, the mule—as a gag and as a promotion for the first "Francis" picture—much to the manager's surprise the editor was enthusiastic about it. The interview, with pictures, on the second front of the paper, became the most talked-about feature of the week.

This was a case where the gag was obvious, everybody knew it was a gag, and everybody (including the readers) played along with it.

Speaking of the obvious, I recall a publicity stunt a very good friend of mine, Cameron Shipp (author of "We Barrymores," "A Feather on My Nose," and numerous articles about Hollywood in leading magazines) used in publicizing a Bette Davis picture, "The Bride Came C.O.D."

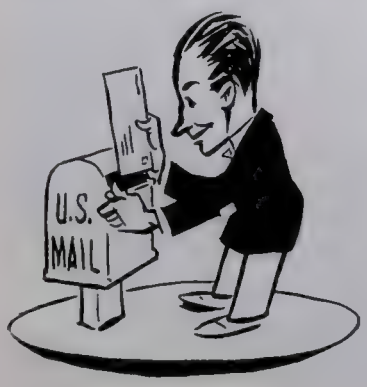
Cam had the actress leaping from a plane into a cactus plant, with appropriate pictures, of course, and a fictitious doctor removing some 40-odd cactus needles from la derriere de Davis.

I am certain that no newspaper editor thought it was the real McCoy—yet, most of them played it on the front page and even went for subsequent stories about fast-buck guys soaking tourists with "genuine needles from you-know-where."

After seeing the flood of tear sheets which resulted from this singular end of our business, Miss Davis declared: "How do you like that—this guy Shipp making a career out of my ——!"

It was during his first few years in the cinema town that Cam did some publicity work for Ilka Chase and originated a bit of repartee which since has been attributed to numerous other celebrities. It went something like this:

ALTHOUGH IT DOESN'T always seem so, reporters are human beings, and enjoy being treated like one. Thank-you notes will help.



Louella Parsons: "Darling, your book is wonderful. Who wrote it for you?"

Ilka Chase: "I did, dear. Who read it to you?"

Thank-you notes to editors are as rare as low film rentals. So, when the occasion arises, why not drop the editor or publisher a word of thanks, or tell the critic what a good review he wrote?

How many of you have ever visited your local newspaper plants, made an effort to get acquainted? And don't overlook those boys in the composing room, especially when you're handing out passes.

When stars come to town—sure, you take them to radio stations, to civic luncheons, etc., but do you take them to your local newspapers, introduce them to the business manager, circulation manager, advertising manager, editorial department, composing room?

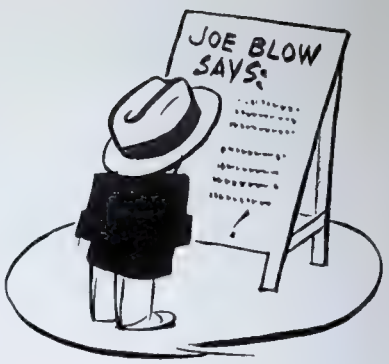
A SELF-PORTRAIT of the author who has always tried to improve the industry's public relations.

Boost your local newspapers just as you boost civic groups of your community. If your movie editor can speak at all intelligently, book him at civic luncheons, schools, etc., and try to make him something of a voice of authority for motion pictures.

In fact, you might try a little of that yourself. An exhibitor should make every effort to be "Mr. Film Industry" in his community. He should keep abreast of all industry news, read the trade papers, the fan magazines—and at least know as much about the stars and pictures as the average movie-goer.

About press overplay of Hollywood news: Big names make big news. We can't get away from that. And many times the treatment of those big names is overboard on emphasizing the sinful side of Hollywood.

However, some time ago I made a comprehensive survey of 90 of the leading newspapers in this country to determine just what sort of play the press was giving the motion picture industry.



ONE OF THE SUREST ways to please a critic is to quote him in the lobby and in the press ads.

The ratio in favor of Hollywood, its people and its product, was better than 10 to one.

There was more than 10 times as much space devoted to the promotion of stars and pictures than there was to the alleged sinful side of the industry!

On the other hand, while many of the newspapers surveyed were extremely generous with space, the majority was not. And that majority principally was in the smaller cities of the nation. Too many of them went for days and days with no mention of motion pictures whatever. If the space given by the minority was matched by the majority, the ratio in favor of motion pictures would be 50 to one or more.

So—in a manner of speaking, we have a lost press as well as a lost audience.

CONCLUSIONS

In conclusion, I would like to list a few of the more caustic comments that some of our critics have printed in the past, including one of my own pre-war examples of that vitriolic art:

"This review of the play, 'The Front Page,' belongs in the classified ad section of this newspaper under 'Help Wanted'."

Then there was the classic Dorothy Parker comment on Katharine Hepburn's performance in "The Lake": "Miss Hepburn ran the gamut of emotions from A to B."

And Miss Parker once substituted for Robert Benchley in The New Yorker, reviewing Channing Pollock's play, "The House Beautiful." She wrote: "'The House Beautiful' is a play lousy."

I always liked Robert Benchley's gentle summation of a play: "Really, the only thing wrong with the play was the fact that the curtain was up."

Another critic declared: "He played the king as though he was going to trump the ace."

A music critic wrote: "The Four-Square Quartet played Brahms last night. Brahms lost."

But, to me, the truly classic comment will always be the last paragraph of a review of a Broadway musical show by Percy Hammond, who wrote: "Well, I have knocked everything in this show except the chorus girls' knees—but God anticipated me there!"

Recapturing An Audience

A Thorough Study of the "Curtain at 8:30" Program And Methods of Establishing a Periodic Art Policy

BRIEF: *Millions of former movie-goers have stopped attending because they do not feel that the average motion picture appeals to their tastes . . . This group is often spoken of as the "lost audience" . . . An attempt to win back this group was made in Canada recently and featured the presentation of an art house film on a special evening . . . and specifically designed to cater to the tastes of this group . . . This plan, known as "Curtain at 8:30" has proven itself successful in theatres all over Canada and the United States.*

Although it is not necessary to convert to a complete art house policy a limited "Curtain at 8:30" program can bring in extra profits and be the source of much good will in the community for the theatre . . . Presented here is a study of the first experiments and the methods that can be used to set up a "Curtain at 8:30" policy in almost every type of situation . . . and a discussion of the merits of such a program.

At this very moment there is someone going about his daily routine who has gotten out of the habit of going to the movies—although at one time he had been an avid fan. The very simple reason *why* is that the he finds little interest or stimulation in the standard product that plays in the theatres of his community. When questioned about this he will usually admit, in one way or another, that he considers himself above the level of the average motion picture. Is this person a snob? Perhaps. However, the important thing for every exhibitor to remember is that he represents millions of potential customers who stay away because they can not find films to suit their tastes.

The problem of how to get these persons back into motion picture theatres, and keep them there, is certainly worth consideration, for the solution represents an important source of revenue, as well as supplying a segment of the population with the brand of entertainment that they desire.

LOST AUDIENCE

In order to solve a problem you must first know with what and with whom you are dealing. Therefore, let us take a look at this group, which has been called among others things, the "lost audience." For one thing it is not made up of any particular age bracket. The members of your lost audience may be starry-eyed high school students, or cynical and world-wise octogenarians. The group consists of persons from all walks of life and all strata of society. They are college graduates, bored housewives, tired businessmen, and members of the country club set. They are snobs, dreamers and realists. However, despite these differences, they all have a number of things in common which bind them together as a group.

They are thoroughly fed up with most of the films that are played. Hackneyed, corny, juvenile, and nonsense are the adjectives they frequently use to describe the pictures they do NOT go to see. A point which is important for exhibitors to keep in mind is that this audience mass feels the very same way about home television entertainment. What they are seeking are films off the beaten track. Films with adult plots and handling. And frankly, they want films that appeal to their sense of being a cut "above" the average movie-goer.

CURTAIN AT 8:30

After studying the situation the exhibitor is faced with two alternatives. He may either decide that this group is not worth going after, or he may set up a special campaign to woo this untapped source of patrons. Not too long ago a Canadian couple, Nat and Yvonne Taylor, who operate the Twinex Century Theatres, Corporation, Ltd., Canada, decided that they were going to do something to capture this art house audience. The Taylor's made a careful appraisal of the entire problem and came up with "Curtain at 8:30." What this plan did was to recognize what the art house group wanted, and then proceeded to do something in their regular scheduling operation to satisfy those demands.

Orillia Experiment

The small town of Orillia, about 75 miles north of Toronto, was selected as the site for the initial experiment. One of the standard complaints among the art house group was that they usually did not hear about a film they wanted to see until it was too late, or when they did find out they already had other commitments. To counteract this it was decided to set aside one evening for the showing of the selected picture, and do it far enough in advance to properly

A GROUP OF POTENTIAL patrons, that runs into the millions have stopped going to the movies because they feel that the average motion picture does not match their standards of quality and taste. Recognizing the presence of this vast untapped audience a Canadian exhibitor put into operation limited art house programs which were aimed directly at this group. This "Curtain at 8:30" policy was a success.

WALTER READE Theatres brought the limited art house policy to this country, and put it into practice at their Paramount, Plainfield, N. J.

publicize the event. The all important prestige angle was played up by issuing a hard ticket, similar to the kind used for legitimate stage productions, at advanced admissions. To avoid anyone arriving at the theatre only to discover that there were no more seats, all were reserved in advance. Everything was done to create an air of dignity and maturity, and to make going to the theatre a special event, rather than just "going to the movies." Here was a simple answer to the problem. A fine adult film, no scramble for seats, and an audience with similar tastes in motion pictures.

Results

The Orillia experiment proved to be highly successful. A look at the results is quite revealing. The night selected was Thursday, a traditionally bad evening for business. Despite this, and the advance in prices, the house was well filled, and certainly drew a larger crowd than on a typical Thursday evening. Of even more importance was the fact that 30 percent of the people attending usually NEVER went to the movies at all, and another 40 percent were very casual patrons, with two or three visits to the theatre a year as typical attendance. Here were the folks who represented your lost audience.

The Plan Grows

The Curtain at 8:30 plan spread and soon was in operation in a number of theatres throughout Canada. As would be expected, the idea soon crossed the border, and the Walter Reade Theatres instituted a "Curtain at 8:40" program. It consisted of single showings on Wednesday evenings of films which normally would not be seen outside of New York City's intimate houses. Seats were reserved, coffee was served free in the lounges and the program ended by 10:30.

As in Canada, the scheme soon proved itself workable and profitable, and more and more theatres began to turn to this type of operation. In Pittsburgh, for instance, a regular commercial Warner theatre, the Squirrel Hill, opened its "Curtain at 8:40" policy with a showing of "the Lavender Hill Mob." The film ran 29 days and business was almost 50 percent better than average for the 840 seat house. A "Cinema Club Series" was started at the Mayflower, Eugene, Ore., which called for the selling of four tickets to university students for three dollars, admitting them to one special film shown every other week for four weeks. Before the policy even went into effect, the management reported an advance sale of $3,000.

Large houses and small situations in communities of all sizes have made use of the basic "Curtain at 8:30" idea. In almost all cases, while the results did not warrant a complete switch to an art house policy, it did show a profit and certainly was worth the effort. Realizing the value of the plan a major film company, Universal-International, has developed a special kit and other aids for the theatreman who wishes to experiment with film presentations, either on a full or part time basis. Here are some of the highlights of that kit which are designed to orient an exhibitor with the mechanics of establishing a "Curtain at 8:30" policy.

SETTING YOUR POLICY

Special circumstances in each situation will determine how often art pictures should be shown, that is, whether one night a week, two nights a week, one night every two weeks, etc. You will have to analyze each situation very carefully to determine the potential of art patrons. For instance, if there is a large college enrollment in a given situation, you can count on a certain basic audience among them. Likewise, large clubs or groups who will be involved in your art presentations will give you some basis for judging your potential. It is better to start on a minimum basis, rather than play an art picture too long and be disappointed with the results. If there has been no art picture exhibition, or if it has been very sporadic in a given town, it is safe to say that one night or at most, two nights would be sufficient for a starter.

Regularity

Remember this: the number of times per week or month that you play art pictures is less important than the regularity with which you play them. And don't expect to build Rome in a day. You are a "pioneer" bringing a new entertainment form to many people—and people don't develop new tastes overnight. It will take a showing of at least six to eight art pictures before your "hard core" or art film fans will begin to expand. But it will expand.

Before you determine which nights of the week are best for your art film showings, check around to see that the evenings do not conflict with other activities in your town such as concerts, stage presentations, important club meetings or other regular events to which your potential patrons may be attracted in large numbers.

INTRODUCING THE POLICY

If possible get a very important club, bank, insurance company or other institution to sponsor the art picture presentation plan. This can be done on the basis of their bringing a new level of entertainment to the town. Arrange to send out, in their name, letters and heralds announcing the inauguration of the event, and telling why they are participating in it. Personally contact women's clubs, Parent-Teachers Associations, schools, lawyer's guilds, medical associations, churches, etc. Explain your program clearly and tell them why you feel free to come to them asking support. This support could be given in two ways—through announcements at their meetings or assemblies, or through letters to their members.

Appeal directly to the editors and publishers of newspapers in addition to the drama critics on the basis of the introduction again of a new and important level of entertainment in the community. Send news releases to local radio stations particularly commentators and local news programs; or better still, arrange for someone from the theatre to appear as a guest on several programs to discuss the new policy. Get an influential public official to issue a statement praising the policy for making it possible for the community to see certain outstanding films which heretofore had not been shown in that community. Since you will be showing pictures from many countries a very good angle for educators and public officials is to stress the importance of these films as a means to a better understanding of other countries and other peoples.

ONE OF THE most important things to remember with such a program is to do everything that will give the show an air of dignity. Selling hard tickets in advance is an effective move.

AT THE time of the performance it is wise to have the staff alert and properly dressed, as this is a part of the "special event" appeal.

Certain mailing lists for heralds and letters are much more important than others; for instance, choice lists would be theatre groups, symphony supporters, opera lovers, foreign language groups, etc. Put a simple word trailer on the screen suggesting that patrons ask the manager about the new policy to be instituted on such and such a date and prepare a brochure or throw-away to hand to patrons prior to the starting of the policy.

PROGRAMMING AND THEATRE OPERATION

How you sell is as important as what you sell. Do not send anyone to address a group who does not have a very good concept of the whole idea, and who has not seen and appreciated a few art pictures himself. In your letters and throwaways, avoid the cliches of "magnificent," "epic," "spectacular," and instead use moderate copy with quotes from such sources as the New York Times, Time Magazine, Saturday Review of Literature, the New Yorker, etc. Those quotes can usually be obtained from the distributors of the pictures you book. A good rule-of-thumb is to undersell rather than oversell. Remember that many of the art theatre patrons will be disillusioned movie-goers of the past and you must not disillusion them again.

Only experience can teach you whether or not a single feature policy or a double feature policy is best for any given situation. It may be that certain pictures very highly praised all over the country may go better as single features, while others of lesser stature may be best as part of a double bill. Short subjects very carefully selected and properly publicized can be extremely important to your program.

Balanced Programs

When you play double features do not put two heavy profound subjects on the same bill. At all times, whether with two features or with shorts, try for a balanced program just as any good booker of commercial pictures does. Art house patrons are far more concerned about seeing a picture from the beginning than are regular picture-goers. Listen carefully to the criticism of your patrons and make your starting times as convenient as possible for the majority. Advertise your feature starting times.

Remember at all times that art program patrons are somewhat more demanding when it comes to their conveniences than are regular picture-goers. In addition to a convenient starting time for the feature, make sure that your house is spotlessly clean, particularly the rest rooms. Your ushers must be as courteous as possible. If you can arrange on your own, or through tie-ups to serve coffee or cigarettes in the lounge, that will help. Do not push your candy sales too hard, and it is wisest to close down your popcorn machine altogether and get rid of the smell of popcorn oil as best you can. Do not put commercial advertising on your screen.

At an art theatre showing, show only the trailers for the next week's art pictures, unless you have a very good "critics" picture scheduled at some other time during the week.

SOME THEATRES have found that it is wise at these showings to close down the popcorn machines. A very popular step is to serve free coffee and doughnuts before and after shows.

ADVANTAGES

By following the plan as outlined here it is possible for almost any theatre operator to institute an art program policy with very little risk of either losing income, or regular patrons. The "Curtain at 8:30" formula has a number of advantages which make it worthwhile to institute.

One of the first of these advantages is that it may be installed in almost any type of house. It is equally practical for a midtown spot as it is for a neighborhood house. As proven by actual experiences, the policy has been successful in large communities and small rural situations. In many ways it is ideal for the small independent with a flair for showmanship.

As mentioned earlier, the television threat is not of major importance in an art program policy as most of the potential customers for such programs regard home TV offerings in the same light as they do the average films which they shun.

Particularly in smaller towns and cities, the theatre gains much in the way of personal prestige as a force for the raising of the cultural, educational, and entertainment standards. Quite often the manager of the theatre is looked upon with new respect, and as an active worker for the betterment of the community. In general the "Curtain at 8:30" policy does a splendid public relations job both for the theatre, and the industry as a whole.

More Advantages

Another important thing to remember is that the theatre does not lose any of its regular patrons while making this special effort to develop its art house element. In most cases, it is neither wise nor profitable to convert to an exclusive art house policy. By setting aside a certain evening, or evenings, for such presentations, enough playing time is still left available for the presentation of the more orthodox motion pictures.

Of course every exhibitor is interested in costs. Here again "Curtain at 8:30" is not prohibitive. The costs entailed in preparing mailings, special advertising, tickets, free coffee, etc., are usually more than compensated for by the advance in admission prices. There seems little doubt that persons who attend these programs do not mind paying a little more for the opportunity to see films which appeal to their tastes, and in an atmosphere which caters to their desires and inclinations.

CONCLUSIONS

The general public's interest in things which were always considered "arty" and had appeal to only a select group, has been growing rapidly in the last decade. Proof of this can be found in the increasing number of ballet companies, opera and symphonic groups that are to be found throughout the country. With this rise of interest in cultural subjects, there has been a corresponding rise in the appeal of foreign films and other art house productions.

The "Curtain at 8:30" policy makes it possible for exhibitors to cash in on this trend. With very little danger of antagonizing the bulk of the movie-going public, the institution of a limited art policy presents the enterprising theatreman with the opportunity to increase his profits, cater to a group too long absent from the motion picture theatres, and generously contribute to the lifting of the cultural level of his community.

Exhibitor Tax Guide

Summary of What the Small Theatre Owner Who Does Not Have an Auditor Can and Can Not Do to Improve His Tax Position

By KENNETH L. HUTCHISON
Accountant

TYPES OF BUSINESS ORGANIZATIONS

The three main types of business organizations are the sole proprietor, the partnership, and the corporation. Each type has certain characteristics with respect to taxes, accounting, and legal phases. An examination of the advantages and disadvantages of each type may reveal that you should change your present organization.

The Sole Proprietor

The sole proprietor, or "one-man" organization has great freedom of action and can do anything not forbidden by law. He is not restricted by the objections of a partner, nor does he come under the numerous laws affecting corporations. However, his capital is usually limited and it is rarely possible for him to expand to any substantial size. Furthermore, his business assets may be seized for the settlement of his personal liabilities, (and vice versa), and his death will terminate the business immediately.

For tax purposes, the sole proprietor prepares Schedule C which shows his business operations and self-employment tax. This schedule is attached to the regular tax return, Form 1040.

The Partnership

The partnership form of organization consists of two or more individuals who have combined their capital and efforts for the purpose of making a profit. More capital is available, and the skill of more than one proprietor is employed; thus permitting greater expansion than is possible in the sole proprietorship. However, harmony does not always exist, and personalities sometimes endanger the existence of the enterprise. The services of a competent attorney should be engaged to prepare a written partnership agreement.

As in the case of a sole proprietor, business assets may be seized to satisfy a partner's personal debts, (and vice versa). The partnership is terminated by the death, insanity, or bankruptcy of one of the partners, unless the agreement authorizes its continuation to a later date.

The partnership does not pay an income tax, although it files an information return, Form 1065. Each partner pays a tax on his share of the partnership profit; whether the profit is withdrawn or not. For example, assume that A and B are partners dividing profits equally. If the profit is $30,000, each partner pays a tax on $15,000; even though each partner has drawn out less than his full share of the profit.

A postponement of tax payment can be obtained for partners if a new partnership is formed with a fiscal year which does not coincide with the calendar year. If the partnership year runs from January 1st to December 31st, the tax is due 74 days later on March 15th. However, if the partnership year runs from February 1st, 1952 to January 31st, 1953, all the partnership profit is assumed to be earned in 1953, and the tax on each partner's share is not payable until March 15th, 1954, or thirteen and one-half months later.

A further tax saving to a partnership is found in unemployment insurance expense. Partners are not looked upon as employees; therefore, there is no unemployment insurance computed on their drawings or profits.

BRIEF: *In addition to being a showman, the operator of a theatre is also a businessman . . . with all the responsibilities and duties that go with running a business . . . One of the chief problems of the small exhibitor who does not require the services of a regular auditor . . . is taxes . . . In order to supply some answers and background knowledge in this complex area of taxes . . . THEATRE CATALOG is presenting this thorough review of the basic business structures . . . with their advantages and disadvantages . . . a summary of what to do in order to prepare your books for end-of-the-year tax purposes . . . and a complete outline of how to prepare the tax forms which apply to the exhibitor.*

Contributions paid by a partnership are not deductible for tax purposes, but each partner may deduct his proportionate share of such contributions on his personal return. The same is true of partnership capital losses not in excess of $1,000 per year above each partner's capital gains.

If the partnership shows a loss for the year, each partner's share of the loss can be off-set against his personal income from other sources.

Partners should consider the advisability of making a "buy-and-sell" agreement. Under this form of contract, each partner insures the life of the other partner. If one partner dies, the insurance proceeds are available to buy out his capital interest. In the absence of such an agreement, there may not be sufficient funds for that purpose, and the partnership will have to liquidate in order to satisfy the demands of the decedent's executor for settlement of the decedent's capital interest.

The "buy-and-sell" agreement outlies the above steps and binds the surviving partner to buy out his deceased partner's interest. Failure to have such an agreement may result in the deceased partner's widow taking his place as a partner or selling the capital interest to someone not acceptable to the surviving partner.

The 1951 Tax Law approved, for tax purposes, family partnerships. Under Section 191, children of a sole proprietor may become partners using, as capital, gifts received from the parent provided that capital is a material factor in creating profits. This permits the splitting of profits among several members of the same family and keeps the tax computations in the lower brackets. However, the law distinguishes between a partnership interest obtained by gift or by other means and also whether or not capital is a material income-producing factor. Furthermore, the new partner cannot receive more profit than his proportionate share of the total capital, and the donor must be compensated for his services before profits are divided.

In all partnership questions, it is important that the services of an attorney or accountant, or both, be obtained.

The Corporation

A corporation is an artificial being created by state law and is separate and distinct from its owners. It, therefore, continues to exist regardless of changes of ownership. In addition, the owners are not personally liable for the corporation's debts. These factors make the corporation a more attractive form of business organization than the partnership; although in other respects the latter may be the better form for you.

One of the tax advantages of the corporation is that an owner pays tax only on the dividends received (plus salary if employed by the corporation) and not on his proportionate share of the profits, as is the case of a partner. Furthermore, salaries paid to officers are deductible expenses in determining net profit, while partners' drawings are not deductible.

If a corporation owns stock in other corporations,only 15 percent of dividends received are taxed. A partnership pays tax on the entire dividend.

Officers of a corporation, as employees, participate in any profit-sharing or pension plans, and payments made to the plan are legitimate, deductible expenses. Partners are not employees of the partnership, and, therefore, do not participate.

If you now have a partnership which makes substantial profits, you may benefit by forming several corporations to take its place. Each corporation will then get the chief benefit of a small corporation, exemption from excess profits tax.

In addition, death benefits of $5,000 or loss may be paid, tax free, to beneficiaries of stockholders who are also employees. This may be of special advantage to a former partner who becomes an employee of several corporations, as the $5,000 exemption applies to each corporation.

Corporations also have several disadvantages when compared to partnerships. They are more closely controlled by state law. Profits above $25,000 are subject to Excess Profits Tax and Surtax. Profits are taxed twice: first when earned and then when paid to stockholders as dividends. If dividends are not paid, the company will be taxed on its unreasonable accumulation of surplus.

In order to determine the relative tax advantage of the partnership or the corporation, you must compare the taxes paid by all the partners with the taxes the corporate officers would pay on their salaries and dividends plus the tax the corporation would pay on its profit. However, the tax question is only one of several you should consider before deciding to change from the partnership form to the corporation form, or vice versa. For example, as a partner you have an equal voice in the management of the business, but in a corporation you may be a minority stockholder, out-voted by the majority stockholders. In addition, your share of the partnership profits may be greater than your share of the total partnership capital, while as a stockholder your dividends would be paid you according to your stockholdings.

Whether you are contemplating changing from a partnership to a corporation or from a corporation to a partnership be sure you consult a lawyer for the legal requirements and an accountant for the tax questions. The preceding paragraphs present some, but not all, of the points you will want to consider.

TAX FORMS FOR THEATREMEN are Form 1120 for corporations, Form 1040 for individual proprietors and Form 1065 for partnerships.

PREPARING TAX RETURN

The form that you must use in submitting your tax returns depends on your type of business organization — sole proprietorship, partnership, or corporation.

If you are a sole proprietor you must file Schedule C — Schedule of Profit (or loss) From Business or Profession, Schedule C-a and Computation of Self-Employment Tax, and the regular tax return, form 1040. If you have capital gains and losses they must be reported on Schedule D.

If you are a partner you must file Form 1040 and Schedule C-a, the purpose of the latter form being to report your self-employment tax. Schedule D must also be filed if you have capital gains and losses. The partnership must file Form 1065 — U. S. Partnership Return of Income, but pays no tax.

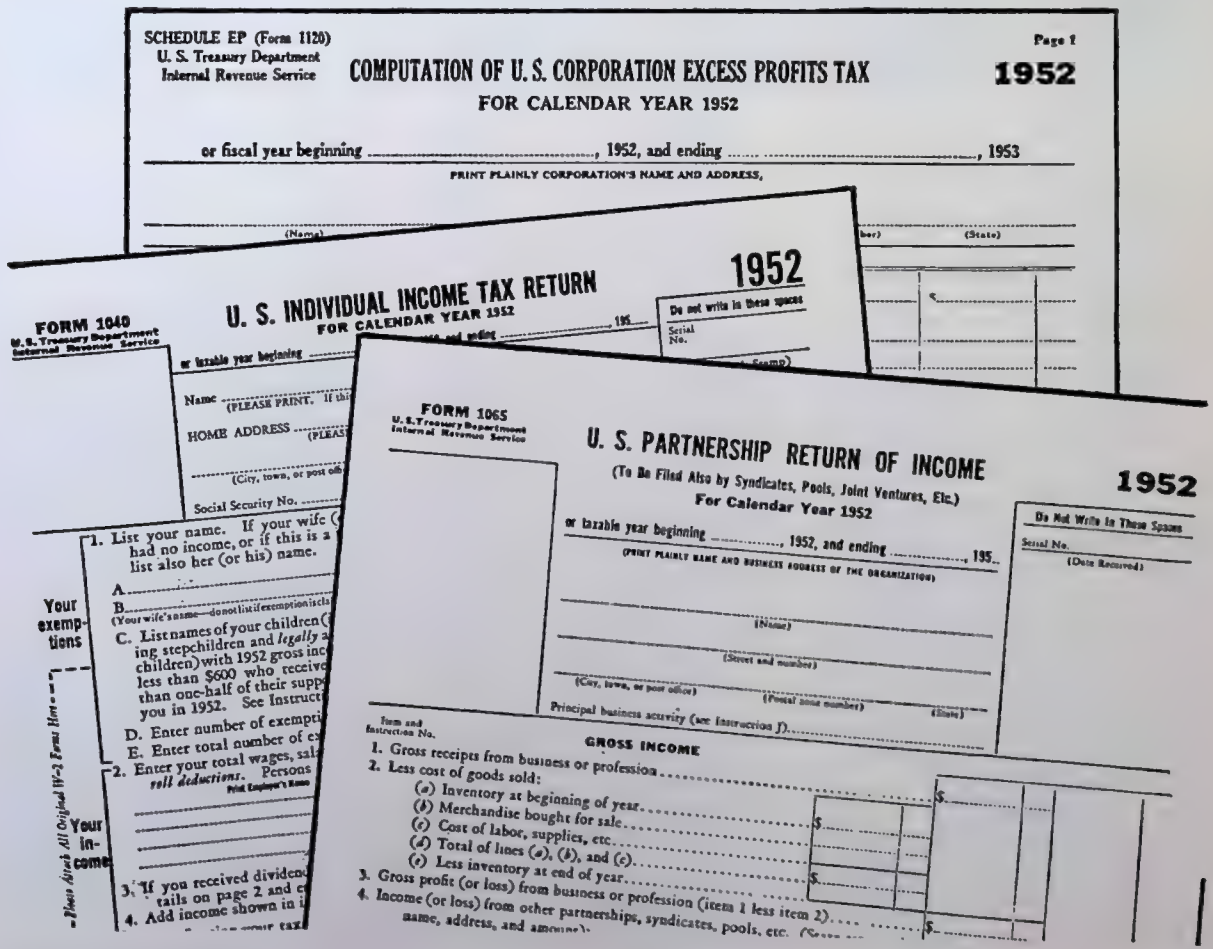
If your business is incorporated the corporation may also be required to file an excess profits tax schedule, EP-1120, and Schedule D-Schedule of Gains and Losses from Sales or Exchanges of Property.

Schedule C

This schedule consists of two parts:

a) Schedule of Profit or loss from business or profession, and
b) Computation of self-employment tax (Schedule 3-a)

If you have a good accounting system and the books have been maintained properly you should have no trouble in preparing Schedule C. The form has been set up so that it follows closely along the lines of most Profit and Loss Statements. Line one shows the total business receipts. On the next eight lines cost of goods sold is computed. It is deducted from line one and the resulting gross profit is entered on line 10. On the next ten lines your expenses are listed, totaled on line 21 and deducted from gross profit. The result is entered on line 22. If you have had any losses of business


SCHEDULE EP (Form 1120)
U. S. Treasury Department
Internal Revenue Service
COMPUTATION OF U. S. CORPORATION EXCESS PROFITS TAX
FOR CALENDAR YEAR 1952
1952
Page 1
or fiscal year beginning ....., 1952, and ending ....., 1953
PRINT PLAINLY CORPORATION'S NAME AND ADDRESS.
U. S. INDIVIDUAL INCOME TAX RETURN
FOR CALENDAR YEAR 1952
FORM 1040
U. S. Treasury Department
Internal Revenue Service
1952
Do not write in these spaces
Serial No.
Name (PLEASE PRINT.
HOME ADDRESS
(City, town, or post office)
Social Security No.
1. List your name. If your wife (
had no income, or if this is a
list also her (or his) name.
A
B
(Your wife's name—do not list if exemption is cla
C. List names of your children (
ing stepchildren and *legally*
children) with 1952 gross inc
less than $600 who receive
than one-half of their supp
you in 1952. See Instruct
D. Enter number of exempti
E. Enter total number of ex
2. Enter your total wages, sal
roll deductions. Persons
Print Employer's Name
3. If you received dividen
tails on page 2 and c
4. Add income shown in i
Your exemptions
Your income
Please check All Original W-2 Forms Here
FORM 1065
U. S. Treasury Department
Internal Revenue Service
U. S. PARTNERSHIP RETURN OF INCOME
(To Be Filed Also by Syndicates, Pools, Joint Ventures, Etc.)
For Calendar Year 1952
1952
Do Not Write In These Spaces
Serial No.
(Date Received)
or taxable year beginning ....., 1952, and ending ....., 195..
(PRINT PLAINLY NAME AND BUSINESS ADDRESS OF THE ORGANIZATION)
(Name)
(Street and number)
(City, town, or post office)
(Postal zone number)
(State)
Principal business activity (see Instructions).....
Form and Instruction No.
GROSS INCOME
1. Gross receipts from business or profession .....
2. Less cost of goods sold:
(a) Inventory at beginning of year.....
(b) Merchandise bought for sale.....
(c) Cost of labor, supplies, etc.....
(d) Total of lines (a), (b), and (c).....
(e) Less inventory at end of year.....
3. Gross profit (or loss) from business or profession (item 1 less item 2).....
4. Income (or loss) from other partnerships, syndicates, pools, etc. (
name, address, and amount)

property they are deducted on line 23. The remaining net profit (or loss) is entered on line 24 and is carried to line one, Schedule C Summary, on page two of Form 1040.

Form 1040

In addition to your net profit recorded on Form 1040 from Schedule C, you must list the following items of income on page two:

a) Schedule A — Income from Dividends, designating the name of the corporation.

b) Schedule B — Income from Interest, designating the name of the payor.

c) Schedule D — Net Gain or Loss From Sales or Exchanges of Capital Assets. The details of these transactions are recorded on separate Schedule D, and only the net taxable result shown here.

d) Schedule E — Income from Annuities or Pensions.

e) Schedule F — Income from Rents or Royalties. If you are a landlord show here the income and expense applicable to the building, including fuel, insurance, salaries, etc.

f) Schedule G — Income from Estates and Trusts and Other Sources. On line two of this schedule record any other income not reported elsewhere.

The total of all the above items is then entered in line three. The remainder of page two consists of the following:

a) Schedule H — Depreciation shown on line 16 of Schedule C and in Schedule F above.

b) Schedule I — Explanation Of other expenses. List here details of Line six — Other Costs, Line 17 — Repairs, and Line 20 — Other Business Expenses of Schedule C, and Column four — Repairs, and Column five — Other Expenses of Schedule F above.

c) Schedule J — Exemptions for Close Relatives. This section is for an unmarried person claiming special exemption as head of the household in which certain relatives live, if he contributes over half the cost of maintaining the home, and if he was not a non-resident alien at any time during the year.

Page one of the return requires you to furnish information concerning your wife and children. If you worked for an employer during the year his name and address are shown in section two, as well as the salary you earned from him and the income tax he withheld from your pay. The total of your salary and the figure shown on line three are added and stated in line four. The total, known as adjusted gross income, is then carried back to line one of page three in the Tax Computation section.

On page three you do two things, (unless you wish to take the standard deduction of namely, list your deductions 10% of line one, not in excess of $1,000), and compute the tax.

If your personal deductions exceed 10% of line one you must list them. They are itemized under the following six headings:

A) Contributions. Payments made to individuals are not deductible. Payments must be made to non-profit organizations formed for charitable, educational, scientific, etc., purposes, and to governmantal bodies. Don't forget to include old clothing or other property contributed to the Salvation Army, Red Cross, etc. Your contributions cannot exceed 20% of your adjusted gross income.

B) Interest. Here you list interest paid on loans, on your home mortgage, etc. You may not deduct interest paid for someone else unless you were legally obligated to make the payment.

C) Taxes. In this section list state income tax, state gasoline tax, city sales tax, cigarette tax, auto licenses, real estate tax on your home, personal property tax on your furniture, unemployment tax, state stamp tax on security transfers, etc. Federal taxes on gasoline, admissions, telephone and telegrams, social security and gift taxes are not deductible. If you are assessed for street improvements, such as sewers and sidewalks, the assessment is not deductible. If the assessment is made to pay interest on bonds issued to finance the improvement, or if made for street maintenance and repairs the assessment is deductible. Payments made for hunting and fishing licenses, dog license, water bills, parking meters, etc., are not taxes and are not deductible. You cannot deduct a tax you pay for someone else, (because it is not imposed on you) unless you have an interest in the property on which the tax is paid.

D) Losses from Fire, Storm, or other Casualty, or Theft. In this section you will show losses from theft not recovered by insurance, damage to your house caused by a windstorm, etc. Losses to your car caused by your own negligence (such as drunken driving) are not deductible, nor are payments made by you for damage to someone else's property nor payments made for personal injuries. The latter, however, may be deductible as medical expenses.

E) Medical and Dental Expenses. Expenses in excess of five per cent of adjusted gross income are deductible up to $1,250 per person with a maximum allowance of $5,000 for four or more persons. If you are 65 years old, or more, the deduction is allowed on all expenses up to $1,250 for you. Hospitalization, health, and accident insurance premiums are included as deductible medical expenses in addition to medicines, eyeglasses, wheel chair rent, crutches, arches, dentures, braces, toothbrushes and toothpaste, doctors' and nurses' fees, ambulance hire, etc. Traveling expenses to see a doctor are deductible. The traveling expenses of a parent in accompanying a child are also deductible, as well as room and board, provided the parent's presence is necessary because of the child's condition.

If you go to the beach or the mountains to recuperate you cannot deduct the expense unless you go to a specific place as directed by a physician. You should be at a hospital, nursing home, or sanitarium, not at a hotel.

Medical expenses must be reduced by the amount recovered from an insurance company. If the recovery is made in a following year and exceeds the deduction, the deducted amount is income. If the deduction exceeds the recovery, the recovered amount is income.

F) Miscellaneous. In this section you are allowed to deduct sundry expenses such as the following:

1. Rent and tax of safe deposit box.
2. Cost of special clothing, uniforms, and tools required in your work.
3. Accountant's fee for preparation of income tax return.
4. Expense of entertaining customers (by an employee).
5. Alimony paid to a divorced spouse.
6. Cost of investment advisory services.
7. Dues paid to unions and professional groups.
8. Subscriptions paid for magazines pertaining to your occupation.

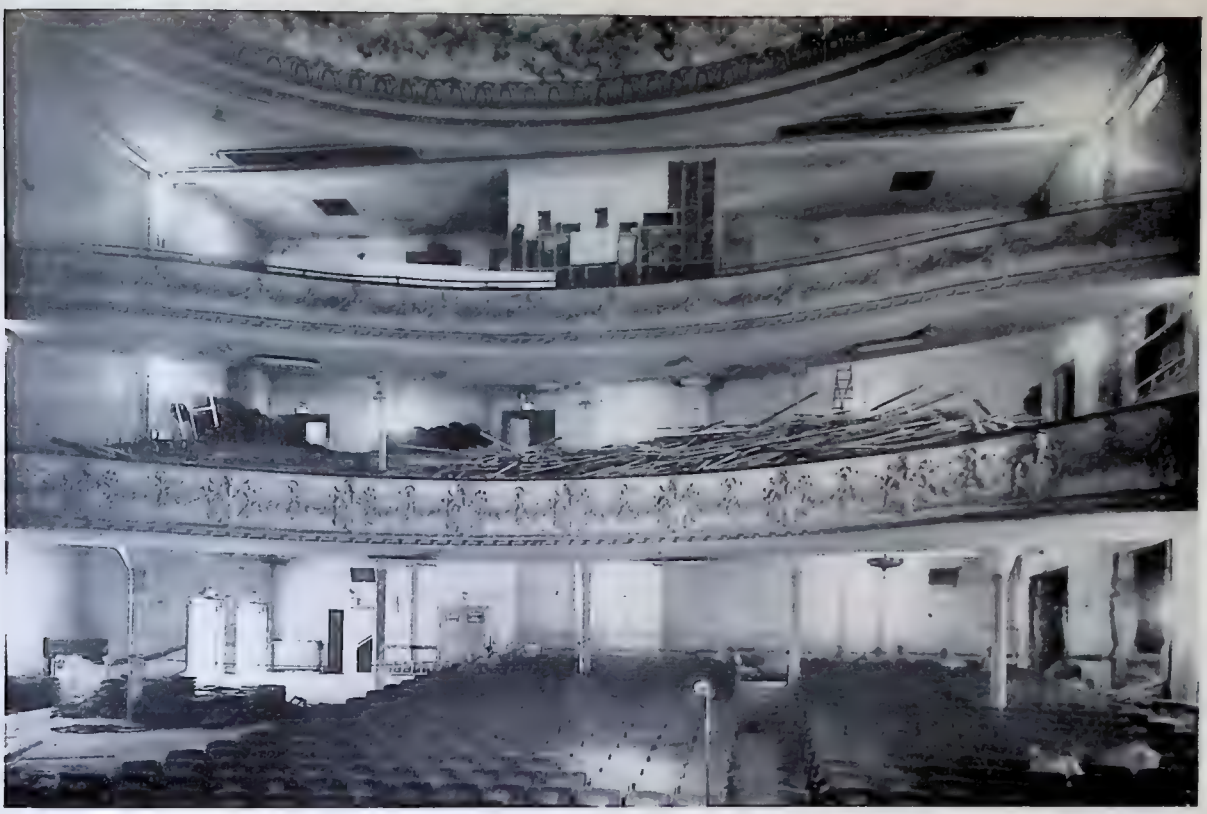
Some of the above items will be listed on Schedule C as business expenses; otherwise list them here.

The total of the six sections just explained is carried down to line two and deducted. If the total deduction is 10% of line one you should omit the itemizing of the deductions and use 10% of line one instead. However, this 10% deduction cannot exceed $1,000.

On line four deduct $600 for each exemption claimed on page one. The remainder is the basis of your tax computation. For a joint return of husband and wife, enter half of line five on line eight (a), compute the tax and enter it on line eight (b), and double the amount and enter it on line eight (c). This is the amount of your tax, unless you have deductions for taxes paid to a foreign country or U. S. possession or paid at source on tax-free covenant bonds.

The total tax computed on page three is then carried forward to line five (A) of page one. On line five (B) enter your self-employment tax as computed on Schedule C-a, line 31.

On line six (A) enter the tax withheld by your employer if during the year you were employed. On line six (B) you enter the total tax that you have paid on your quarterly estimated payments. The two amounts are added, then deducted from the total tax. The balance is the amount you owe the government (which must be paid in full) or the refund to which you are entitled if you have overpaid. On line eight you indicate whether you want the overpayment refunded to you or credited on the following year's estimated tax.



PROPERTY INVESTMENTS such as remodeling should be related to the theatreman's tax position.

Schedule C-a

On this schedule, which is the lower part of Schedule C, you show the computation of your self-employment tax. On lines 25 and 26 you enter your self-employment income, with the total on line 27. If you were employed during the year and your wages were subject to old-age and survivors insurance the wages should be entered on line 28. The total of lines 27 and 28 is then entered on line 29.

The tax is computed at 2¼% on total income of $3,600, or a maximum of $81. If your employer paid you $1,300 you show $2,300 on line 30, and the tax on $2,300 on line 31. If you have no employment income enter on line 30, $3,600 or less, if your self-employment income is less. If your self-employment income (line 27) is under $400 you need not complete the remainder of the schedule, and have no self-employment tax to pay.

The purpose of the self-employment tax is to provide old age and survivors insurance for proprietors who are not considered to be employees of their own firms and who heretofore were exempt. It does not apply to professional services, such as doctors, lawyers, dentists, funeral directors, engineers, fulltime practicing accountants, and others.

Form 1065

The first page of this form, which is used to report partnership income, is quite similar to the sole proprietor's Schedule C. Income and expense items are listed and totaled, respectively, and the remainder, known as ordinary net income, entered on line 26. Capital gains and losses are shown on the next two lines.

The ordinary net income on the tax return will not be the same amount as the net profit reported on the partnerships Profit and Loss Statement, because the latter will include contributions and capital gains and losses. These items must be divided among the partners and each partner's share shown on his own Form 1040.

The second and third pages contain various schedules most of which have been discussed above under Form 1040, and several questions which are self-explanatory.

Page four shows the partnership balance sheets at the beginning and at the end of the taxable year. Below the balance sheet in Schedule J the change in each partner's capital account during the year is accounted for, and in Schedule K each partner's share of income and credits is shown.

Form 1120

This is the form required of all corporations. In addition, if the corporation is subject to excess profits tax a separate schedule EP-1120 must be filed. Form 1120 must be filed even though there is no profit to report.

Most of the schedules on the form resemble those already discussed, and their preparation need not be repeated here. Additional schedules are included which show officers' compensation (Schedule E), determination of necessity for filing excess profits tax schedule (Schedule K), and reconciling earned surplus (Schedule M).

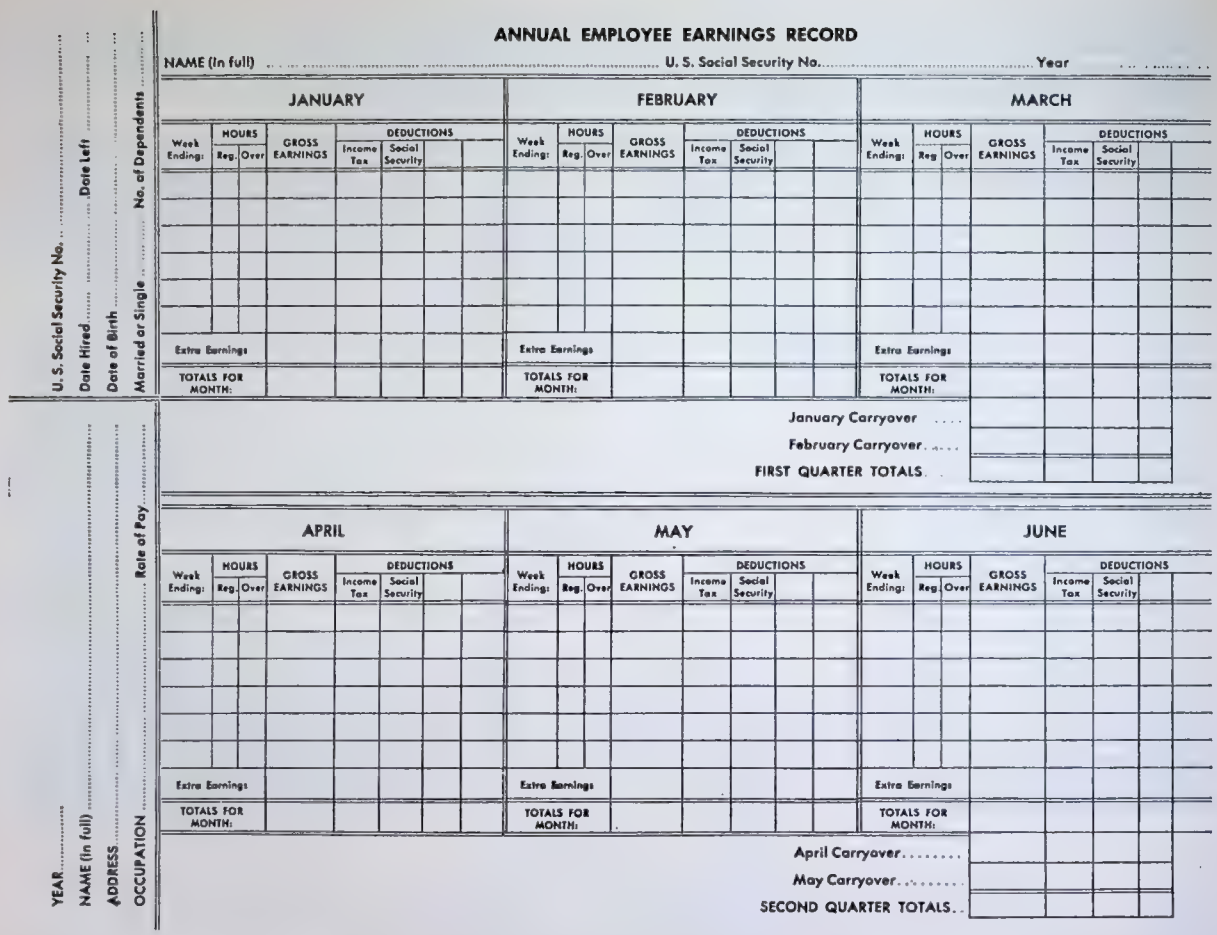
For corporations, contributions are limited to five per cent of net income. Dividends received are taxed on 15% of the amount received.

Preparation of Form 1120 will be facilitated by the use of separate worksheets to analyze the corporation's income and expense. These worksheets are necessary because all of the corporation's income may not be taxable, such as interest received on municipal bonds, and all corporate expenses may not be deductible, such as insurance premiums paid on the life of an officer in which the corporation is the beneficiary.

Corporations have the option of paying the tax on quarterly installments, but the payments are not in equal amounts. The first and second payments, due March 15, and June 15, are for 40% each of the total tax. The third and fourth payments, due September 15 and December 15, are for 10% each of the total tax. The first two installments for 1953, payable in 1954, will be increased to 45% and the last two installments will be decreased to five per cent. In 1955 and subsequent years, the tax will be paid in two installments of 50% each on March 15 and June 15.

END OF YEAR PROCEDURES

If you are smart, you will make four quarterly payments, estimated in advance, on March, June, and September 15, 1953



ANNUAL EMPLOYEE EARNINGS RECORD

NAME (In full) ..... U. S. Social Security No. ..... Year .....

U. S. Social Security No. ..... Date Left .....
Date Hired ..... Date of Birth ..... No. of Dependents .....
Married or Single .....

JANUARY									FEBRUARY									MARCH								
Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security				Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security				Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security		
Extra Earnings									Extra Earnings									Extra Earnings								
TOTALS FOR MONTH:									TOTALS FOR MONTH:									TOTALS FOR MONTH:								

January Carryover .....
February Carryover .....
FIRST QUARTER TOTALS .....

YEAR .....
NAME (In full) .....
ADDRESS .....
OCCUPATION ..... Rate of Pay .....

APRIL									MAY									JUNE								
Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security				Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security				Week Ending:	HOURS Reg.	HOURS Over	GROSS EARNINGS	DEDUCTIONS Income Tax	DEDUCTIONS Social Security		
Extra Earnings									Extra Earnings									Extra Earnings								
TOTALS FOR MONTH:									TOTALS FOR MONTH:									TOTALS FOR MONTH:								

April Carryover .....
May Carryover .....
SECOND QUARTER TOTALS .....

RECORDS AS THE ABOVE, prepared by Jay Emanuel Publications, are valuable tax aids.

and on January 15, 1954. The quarterly payments are required by tax law and enable millions of taxpayers to swallow a large pill in small installments. If your payments have been properly computed, the final (and fifth) payment should not be too large.

You pay a tax not only on your business income, but on income from other sources as well, such as dividends on stock and interest on savings bank balances. Your business income is reduced by your business expenses to arrive at the net profit on which your tax is based. In addition, you are allowed to deduct certain non-business expenses, etc., as well as exemptions for yourself, your wife, and your children before computing the tax. Some consideration must therefore be given to your non-business items of income and expenses.

Adequate Records

Too much emphasis cannot be placed on the importance of keeping adequate records. Many business men, especially small theatre owners, have no records except their checkstubs and a few manila folders jammed with many loose papers, insurance policies, purchase orders, etc. No cashbook, purchase register, sales summary, or ledger are maintained. As a result, when it is time to prepare the income tax return, it is necessary to go through all the available papers and documents to try to bring order out of chaos and compile all the information necessary to compute the tax.

Controlling Your Expenses

By keeping your records up to date, you will know before the end of the year your approximate profit picture. You can thus decide whether certain expenses can profitably be incurred before the end of the year or whether they should be postponed until the following year. For example; if your profit this year will be substantial, incur repairs, entertaining, and advertising expenses now to reduce the profit and tax. On the other hand, if this year's profit will be only fair and you expect much better results next year, you will benefit tax-wise by letting the expenses wait until then. For personal tax purposes, outside of business, the same holds true for contributions and medical expenses.

With respect to medical expenses, you are allowed to deduct the expenses in excess of five per cent of your adjusted gross income. If the latter is $8,000, all medical expenses in excess of $400 can be deducted. If your medical expenses up to December 1st amount to only $50, nothing will be gained by paying a bill of $300 expense plus other medical expenses of the following year should give you a tax saving for the latter period.

In tabulating your medical expenses, be sure to include all payments to which you are entitled. In addition to doctors', nurses' and hospital charges, you should include crutches, dentures, medicine, supplies, toothpaste, toothbrushes, accident and health insurance premiums (less any amounts recovered from the insurance company), hospitalization premiums, traveling expenses to see a doctor, etc.

A reduction in tax results from the sale of equipment, furniture, machinery, etc., at a loss, such less is fully deductible if held for more than six months. If the asset is sold at a profit, the profit is taxed at capital gain rates, which cannot exceed 26%. However, if you trade the asset in for a new piece of equipment, no gain or loss is recognized. Instead, the cost of the new equipment is increased by the loss or decreased by the gain.

It may, therefore, benefit you to trade in the old equipment instead of selling it at a taxable profit. You thereby avoid paying a tax on the gain. If you have a loss, you have a choice between selling or trading in. If you sell, you benefit

immediately by deducting the loss. If you trade in, you benefit in later years by deducting more depreciation.

Entertainment expenses may be increased at the year-end in order to reduce your tax provided: (1) that they are reasonable in amount and (2) that they are actually made in order to increase business. The government has approved the deduction of Christmas parties and gifts for employees, club dues, in whole or in part (where the club was used to entertain customers), theatre tickets for customers, etc.

Year-end advertising can be increased to reduce your taxes, provided the total expense is held within reasonable limits. You may also advertise for "public service" purposes, such as urging the purchase of defense bonds, or the conservation of natural resources.

A further increase in expense can be obtained with resulting good will on the part of your employees by means of a Christmas bonus. Care must taken not to violate Wage Stabilization Board regulations, but if you have given bonuses in the past, you may legally continue to do so.

Controlling Your Income

One of the most important matters for you to consider before the year-end is the advisability of taking capital losses to reduce capital gains. This refers especially to transactions in stocks and bonds. By this means, taxable income can be reduced by deferring until next year a profitable sale or including in this year a sale at a loss.

If the security sold was owned by you for six months or less, the gain or loss on the sale is known as a "short-term" capital gain or loss. If held for longer than six months, it is known as a "long-term" capital gain or loss. Short-term gains and losses are recorded for tax computations at one hundred per cent. Net long-term gains and losses are recorded at 50%, but the effect on your tax cannot exceed 26%. A few examples will illustrate the working of this section of the tax low.

a) Short-term gain and short-term loss: Assume that stock A cost $800 and was sold for $1,300, a gain of $500, and that stock B cost $1,700 and was sold for $1,500, a loss of $200.
Both securities were owned for less than six months.

Short-term gain	$500.00
Short-term loss	200.00
Net short-term capital gain, taxed 100%	$300.00

b) Long-term gain and long-term loss: Assume that stock C cost $1,600 and was sold for $2,500, a gain of $900, and that stock D cost $2,700 and was sold for $2,400, a loss of $300. Both securities were owned for more than six months:

Long-term gain	$900.00
Long-term loss	300.00
Net long-term capital gain	$600.00
Taxable as income (50%)	$300.00

c) Long-term gain and short-term loss: Assume that stock E cost $2,000 and was sold for $2,900, a gain of $900, and that stock F cost $2,600 and was sold for $2,100, a loss of $500. Stock E was owned for more than six months. Stock F was owned for less than six months.

Long-term gain	$900.00
Short-term loss	500.00
Excess of long-term gain over short-term loss	400.00
Taxable as income (50%)	$200.00

In each of the above examples, the net result was a capital gain, taxed 100% if short-term and 50% if long-term. If the net result is a capital loss, you may only deduct $1,000 from your other income, or up to the amount of your other income if it is less than $1,000. Any excess of the net capital loss may be carried forward and used during the following five years. Examples of a "net loss carry over" are given:

1952		
Other income		$6,300.00
Net capital loss ..	$4,000.00	
Capital loss allowed	1,000.00	1,000.00
Net income		$5,300.00
1953		
Other income		$7,400.00
Net gain		1,700.00
		$9,100.00
Capital loss allowed ($1700 plus $1000) $2700 ..		2,700.00
Net Income		$6,400.00
1954		
Other income		$8,100.00
Net gain		3,000.00
		11,100.00
Capital loss allowed (balance of $4,000 loss less $3,700 deducted in 1952 and 1953)		300.00
Net Income		$10,800.00

MAJOR IMPROVEMENTS such as new seating might pay for themselves out of the tax savings.

The above comments on capital gains and losses apply to individuals. Other rules apply to corporations. For partnerships, each partner shows on his personal tax return his proportionate share of the partnership's capital gain or loss.

If you are a landlord and receive from a tenant a $300 deposit which is intended to cover the rent for the last four months of the lease, the entire deposit (plus rents received for the current year) is taxable in the year of receipt. (This is not true of the tenant, who can deduct the deposit only for the year to which it applies). To avoid this, the $300 deposit should be deposited and maintained in a separate bank account and should be recorded in the lease as a deposit to be returned upon completion of the contract. The deposit should not be recorded as rent paid in advance.

If you have a child who works after school, be sure he does not earn over $599 during the year. If he earns $600, or more, he must pay a tax on his earnings and you cannot deduct $600 for him as a dependent. If his earnings are less than $600, he will get a refund of the tax withheld from his pay and you can also deduct $600 for him as a dependant. If one man's son earns $595 and another man's son earns $605, the latter's tax plus his father's tax will exceed the other couple's tax by at least $200.

Do you own any E bonds They were sold during the war for multiples of $18.75. Ten years after sale, an $18.75 bond matures for $25.00. The interest may be taxed each year as the value of the bond increases or may be taxed all at once when the bond matures. Tax-wise, with today's high rates, it is better to pay your tax on each year's appreciation of the bond value.

Taxable income can also be reduced by investing in bonds of a state, county, or local municipality. Such bonds are known as municipal bonds, and the interest received on them is completely exempt from tax.

Guide To Staff Supervision

Detailed Discussion of the Duties and Obligations of Staff Members of Conventional and D-I Theatres

All of the positions on a theatre staff are important. Each position bears a direct relationship to the success of a theatre's operation. Success is based on constant effort to deliver courtesy and service—neither is more important than the other. Although some may think that entertainment is more important than courtesy and service, without their presence a person is in no mood to be entertained.

Attitude and Appearance

Integrity—Every position is a position of trust and duties must be carried out in such a manner that honesty and integrity will be unquestioned at all times.

Conduct—All theatre personnel should remember that their uniform identifies them with the theatre. They should conduct themselves in a manner which will be above reproach at all times.

Punctuality—Being on time is vitally important in the operation of a theatre. In order to maintain the faith of its patrons, a theatre must open its doors and maintain its schedule as advertised. There are few acceptable excuses for tardiness; don't try to find them.

Cooperation—Giving the other fellow a helping hand when he needs it will get you the same kind of treatment. You may be asked to do some things which are not strictly a part of your duties—don't quibble about them. Cooperation will not only earn a good reputation for you, but also means added responsibility. The more responsibility you can carry the more valuable you become to the theatre, and promotions are usually the end result.

BRIEF: ***One of the things that is vital to the proper functioning of a motion picture theatre is a well organized and properly trained staff . . . In order for the management of a theatre to expect peak performance from their staff . . . it must see to it that the various staff members are thoroughly familiar with all the phases of their job . . . and how they are expected to handle them.***

Wometco Theatres . . . Florida . . . one of the nation's leading circuits . . . has prepared a complete blueprint of staff operation . . . The functions of cashiers . . . doormen . . . barkers . . . ramp attendants for drive-ins . . . and others . . . have been analyzed and the various duties involved in each job explained in detail . . . The editors of THEATRE CATALOG are of the opinion that the subjects covered in this article apply to all theatres . . . and contain many valuable suggestions which will lead to a more efficient and smoothly operating staff . . . thus a more efficient and smoothly operating theatre . . . Included among those on the Wometco staff who helped prepare this material are personnel director Robert Green . . . theatre manager Burton Clark . . . public relations director Mark Chartrand . . . and district manager Harvey Fleischman.

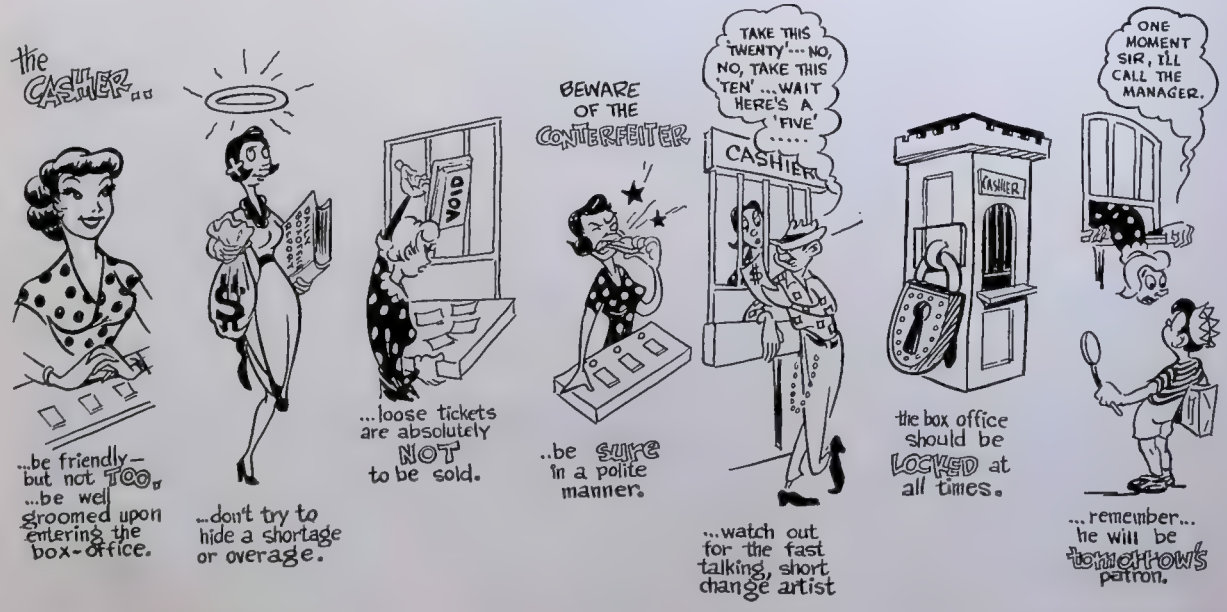
Neatness—Cleanliness and neatness are two rigid requirements. Any departure from the normal standards of good grooming are inexcusable. Give uniforms frequent check-ups, keep shoes cleaned and shined, hair combed, linen fresh, and nails clean. Guard against bad breath and body odors. Report all necessary uniform repairs at once. If your uniform has brass buttons, shine them with polish, and protect the material from soiling while doing this.

Smile—A smile is the most important part of your uniform. A smile is like the decimal point in arithmetic; it may not be much in itself, but it is capable of adding a great deal of value to everything else. If you can learn to assume one naturally, and not in a forced manner, it will serve you well not only in this business, but in every walk of life.

THEATRE STAFF

Instructions for Cashiers

A person goes to a theatre to be entertained. You can help! Don't be a "Gloomy Gus." A courteous and pleasant manner on the part of the cashier is important. If she recalls the patron as having been to the theatre before, she should greet the patron in a manner that indicates recognition. The average person is flattered when remembered as a previous patron, and it is a well known fact that some persons will go considerably out of their way to a theatre where friendly treatment and a



DOORMEN who offer the same courteous service to children as they do adults are performing the job in a way that builds future patrons.

pleasant atmosphere is the rule. Its part of being entertained.

A human being is subject to many ills and moods. Nevertheless, the cashier should endeavor to be pleasant and courteous at all times, regardless of her own feelings. If a cashier is actually too ill to present a bright, cheerful countenance, she should be relieved until she recovers. The patron is not interested in our troubles.

Cashiers' Banks—The cashier is given a definite amount of cash as a bank at opening. She should count this change fund in the manager's office before going into the box office, and again at night with the manager or assistant manager upon being checked out.

Ticket Numbers—Verify opening ticket numbers each morning by checking with the previous day's record of last ticket numbers sold in each price category.

Reliefs—Cashiers are relieved for short periods during the day, and no one other than the manager or the assistant manager is eligible to make the reliefs, unless another employee is specifically authorized to do so by the manager.

For Safety Sake—Keep money in the box office, out of sight. Count the receipts in the office each night with the manager or assistant manager upon being checked out.

Receipted Voucher—Each night the cashier is to be reimbursed from the petty cash fund, for all vouchers paid at the box office during the day. She is to pay vouchers only after they have been properly approved by the manager. All vouchers must be receipted.

Overages and Shortages—Cashiers' overages or shortages if any, must be shown on the daily box office report. Overages are to be deposited; shortages, deducted from the deposit. Under no circumstances is a cashier, manager, or other employee to make up a shortage, or keep an overage.

Refunds—If the manager is in the theatre he must be called when a patron requests a refund. He is to offer a refund pass to the patron in lieu of refunding the money, and the pass, if accepted, is to be good within 30 days of the date it is issued. Refund passes are not subject to tax when presented later. The tax on that admission was paid when the regular admission ticket was purchased. If the manager is not present when a refund is requested, the assistant manager may issue a refund pass in the same manner.

If either the manager or the assistant manager is present then one of them should handle all requests for a cash refund. If neither one is in the theatre, the doorman and the cashier, after duly determining whether the patron is entitled to a refund, will both sign their full names on the refund voucher after the patron has signed it and received the money from the cashier. The manager approves the refund before it is sent to the accounting department. In the event the patron requesting a refund has lost the ticket stub, write "stub lost" on the refund voucher. Do not get a stub out of the doorman's ticket box, off the floor, or from the next patron to put on a refund voucher.

Loose Tickets—Tickets punched in error by the cashier must be immediately stamped void and placed in a refund envelope. Under no circumstances is a loose ticket to be sold to a patron. All tickets sold must come directly from the machine or from the roll, according to the type of ticket used. There are no exceptions to this rule, and no one has the authority to grant exceptions.

Passes—With the exception of the refund pass, which may be signed by the assistant manager, all passes must be signed by the manager, or certain authorized individuals.

The trip pass is to be cancelled with a rubber stamp by the cashier, who will issue a pass ticket as she does a regular admission ticket.

Season passes must be presented at the boxoffice for pass tickets. Before issuing the pass tickets, the cashier checks the pass for the correct number of admissions. She then records the pass number, name of owner, and number of admissions on her Daily Pass Report, before issuing the pass tickets. The pass ticket is stamped SP by the cashier. The season pass must be shown to the doorman for admission to the theatre. Only passes authorized by the company are to be accepted for admission.

Collection of Tax—Any persons who are required to collect admission taxes or any one who admits persons to theatres or places of amusement without collecting required admission taxes, are subject to heavy fines and imprisonment as provided under the existing regulations and laws.

Counterfeit Money—The Secret Service Division of the Treasury Department, sends out notices from time to time in regard to counterfeit bills. The theatre manager should request his bank to give him copies of these notices whenever they are received so that the cashier can be on the alert for counterfeit money. If any bills or coins are presented to the cashier which she thinks are counterfeit, she should be guided by the following instructions:

a. She should put the bill aside and say, "I'll have to ask the manager to change it." Then call the manager or, if he is absent, the assistant manager.

b. She should be courteous and composed. The person may be innocent.

c. If the person becomes impatient she should reassure him and state that the manager will see him in a moment. If guilty, he will leave quickly, but if he does remain, the manager should use his best judgment in handling the situation.

d. She should study the person's features; then write a description of him if he leaves. Also take numbers of any cars involved.

Short Change Artists—Money lost by the public through the short-change racket runs into the hundreds of thousands of dollars each year. Much of this is believed by the victims to be due to mistakes, but in reality much of it is due to the work of short change artists. The theatres always get their share of these crooks. The actual methods used are too many and varied to explain here, but it should be remembered that their success depends upon confusion; by fast talking and skillfully manipulating money, that is, by laying down one bill and after the change is offered, handing the cashier another bill, then asking for certain change and finally so thoroughly confusing the cashier that she does not exactly know what she is doing. Two confederates may be working together and the second man may be next in line, demanding a ticket and asking the time of the show, thus further confusing the cashier. Curiously enough, the intelligent type girl is by far the easiest victim. For one thing, she dislikes to offend a patron, and for another she is accustomed to handling money fast. She has confidence in herself and proceeds without suspicion or hesitation.

Whenever a cashier becomes confused she should simply return to the patron the original bill, take back her change, hold the ticket, and start over, never attempting to handle or adjust two bills at the same time. If a cashier suspects a patron to be a short change artist, she should immediately notify the manager of her suspicion.

Locked Doors—As a precaution against holdups, the box office door must be locked at all times. No one is permitted to enter other than authorized personnel.

Miscellaneous—Close the box office statement in the manager's office. Do not close out this report in the box office. Personal funds should not be mixed with company funds at any time.

The manager is instructed to remove all surplus cash from the box office at regular intervals. However, if the cash accumulation should amount to over $100 at any time, the manager is to be notified by the cashier to that effect.

Cashiers Do's and Don'ts

Don't read for your own amusement while on duty, nor manicure or chew gum, fix hair, apply cosmetics, or eat anything.
Do be alert, ready to serve patrons.
Don't make refunds on your own.
Do call the manager or assistant when a refund is requested.
Don't count your money near the box office window.
Do count the money in as unrevealing a place as you can.
Don't sell loose tickets.
Do take tickets issued in error and put them in the refund envelope.
Don't allow large amounts of money to accumulate in the box office.
Do give extra money to the manager or assistant as soon as it accumulates.
Don't give box office information to anyone except the manager or assistant. If someone phones for this information be absolutely certain it is someone entitled to the information before you give it.
Don't be Glum
Do have a smile on your face and in your voice when you say "thank you" and "how many, please?"
Don't put bills for which change is being made out of sight of the patron until the change is given and the patron satisfied.
Do keep the bills for which change is being made in plain sight of the patron so that there can be no argument about the patron having given you a bill of larger denomination.
Don't sell tickets to obviously intoxicated persons.
Do call the manager or assistant if an intoxicated person persists.
Always give accurate information as to the time schedule. When patrons leave children at the theatre and ask you when the children will be out so they can pick them up, add five minutes to the time you give them so that the children will be out and waiting. This prevents congestion of parked cars at the entrance.
Don't ignore a child's question. Give him the same attention you would an adult.
Keep police and fire emergency phone numbers posted handy for use in an emergency.
Never argue with a patron. When there is a misunderstanding, call the manager. When closing the box office cashiers should be cautious. The manager should walk a step or two in back of the cashier, and a doorman should keep an eye on both until they are in the manager's office.

THE DOORMAN

Dignity and refinement are essential for a doorman. He should know as many of the patrons by name as possible. It is part of the doorman's job to smile, whether he feels like it or not. He must acquire the habit of smiling, of being friendly and genuinely sincere. He should say "Thank you" to each patron—he may wish to vary this greeting with some other expression of appreciation for the patronage. He might well add a pleasant "good evening."

Doormen should give a cheerful, courteous answer to the meanest grouch. New customers are as valuable as established ones. Each new patron is an old customer in the making. Doormen should be especially kind to children, to the aged and the incapacitated. There are no set rules concerning diplomacy. The method must fit the occasion.

Instructions

1. Tickets—The doorman is to tear all tickets in halves, return one half to

USHERS should consider themselves as hosts of the theatre and conduct themselves so customers feel as if they are his personal guests.

the patron, and immediately drop the other half in the chopper, or place it on the stub rod.

Do not issue any form of pass-out check to patrons. Make a record of the pass-out on your doorman's report.

2. Tickets—Every person entering the theatre must have a ticket. In the event that someone wants to see the manager on business, such persons are to be held at the door until the manager can be contacted. This rule applies with equal force to members of the police and fire departments, unless they are on active duty.

If both the manager and assistant manager are out of the theatre, the doorman and cashier, after determining that the patron is entitled to a refund, will sign the refund voucher after the patron has signed it and received the money from the cashier.

4. After Closing Tickets—Every theatre is supplied with after closing tickets. They are handled by the doorman on duty after the box office closes. A portion of the ticket is given to the patron just as in the case of machine and roll tickets. Sales of after closing tickets are shown on the following day's box office statement.

5. Deposits on Door—Do not accept deposits from persons who are looking for somebody in the theatre.

6. Post Off Duty—The doorman is not to leave his post of duty for any reason whatsoever, without being relieved by another employee.

7. Special—Patrons are to be admitted only by regular admission tickets. Special tie-up tickets or passes must be presented to the cashier for either a regular ticket or a door pass ticket.

8. Loitering—No one is permitted to loiter around the ticket box at any time. This rule applies to employees as well as the general public.

9. Stools—Where stools are provided for doormen, they are not to be used during peak hours, unless special permission is obtained from the manager.

CURBMEN should get to know regular customers so they can greet them as they enter or pass.

THE USHER

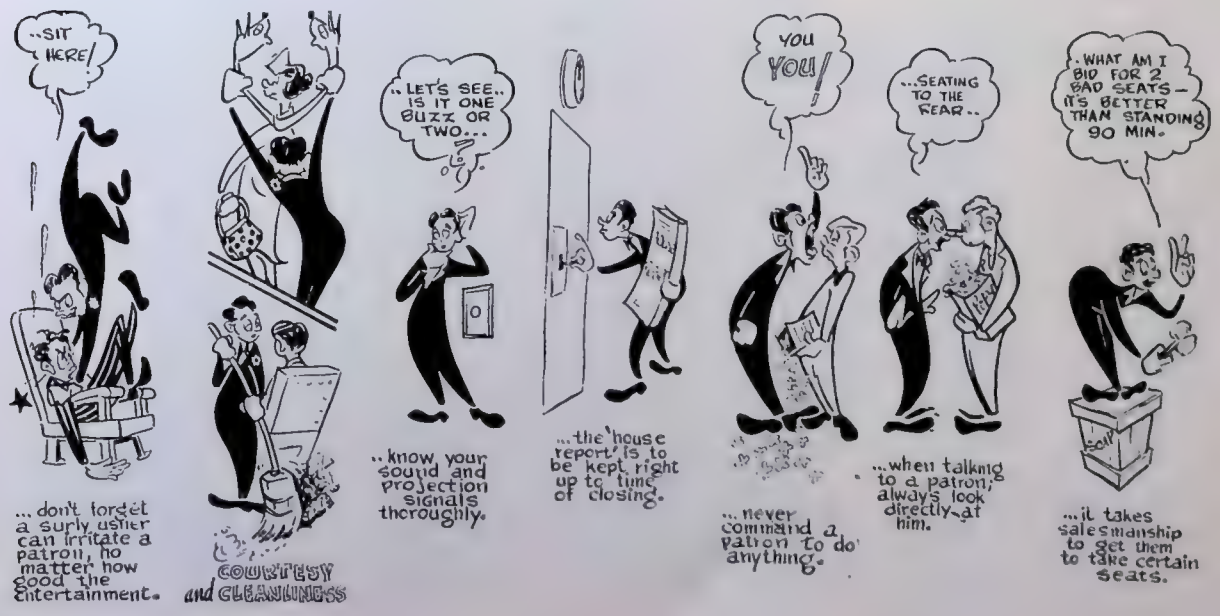
This member of the theatre staff occupies one of the most important positions. He, or she, is far from being a uniformed robot whose sole duty is to show patrons to their seats; this member of the staff is the real host of the theatre. The usher is directly responsible for the comfort and safety of the patron, and for the uninterrupted enjoyment of the program. The patrons came to the theatre for relaxation and entertainment and a surly usher can kill the evening's fun by a simple process of irritation. The patrons are the usher's personal guests.

Usher's Responsibility

As a personal representative of the theatre, the usher has many obligations to his guests.

He should be able to talk intelligently about every department of the theatre, and he should know something of the history of the industry and of his company. He should be able to correct any false statements about the industry and the people in it, and bearing in mind that he is a representative of his company, he should maintain conduct above reproach anywhere, any time. The usher is provided with a great deal of assistance in his efforts to serve the patrons. The whole organization is behind him. Manager, booker, advertising men, air-conditioning and maintenance men, projectionists and porters have all contributed something. To the public, the service staff of the theatre is its most important personnel because they are the only ones who actually come in contact with the patrons. All of the work of the other departments, is lost if the duties of the service staff is not performed thoroughly, intelligently and diplomatically.

Seating of Patrons—The first and most obvious duty of an usher is the seating of patrons. If a wide selection of seats is available, ask the patron, at the head of the aisle and out of hearing of seated patrons, how far dawn they wish to sit. Use your flashlight to guide them and keep in mind that very probably the patron's eyes are not yet accustomed to the darkness as yours are. Keep the light beam always downward so that it does not disturb others. When you reach the row in which the patrons are to be seated, tell them in a quiet voice, how far in the seats are located. Such a statement as, "The third and fourth seats, please," is good. When seating patrons while there is someone sitting in the aisle seat, you should say to the seated person, "Pardon, please." Then



thank the person in the aisle seat for allowing the others to pass.

Another good service is to assist patrons with their wraps when they are entering or leaving the theatre. "May I help you," always goes with this service. If a gentlemen is with the lady do not interrupt if he is helping her with a coat; wait, and then help him. If the man does not offer the lady aid, then you should proceed to do so.

Checking Theatre—As soon as you have been assigned to an aisle, check immediately on the available seats, and keep an accurate count on this at all times.

Keep the floor free from trash at all times, but do not sweep it on the feet of seated persons. Do not permit umbrellas, canes, crutches, or people's feet to protrude into the aisle. Explain to the patron the danger of someone tripping and ask that they move the protruding object.

No Tipping—The service you offer is that of a host to a guest. As a host you do not expect to be paid for your courtesy to your guest. Tips should not be accepted even if the service you render is as extensive as changing a tire.

Times and Pictures—You should know the starting time of the next feature and, if the feature is on, what time it will be over. You should know what short subjects are on the program, and something about coming pictures and their casts. Learn to read a time schedule your first day on the job. Try to memorize feature starting times.

Smoking Sections—If there is a smoking section in your theatre, learn where it is and whether or not there is an additional charge for sitting there. Have a supply of books of matches to give to patrons on request.

Sound and Projection—All members of the service staff of a theatre should keep a close check on the sound and picture. The manager will delegate one person to notify the operator when sound or projection need correction. Buzzing the operator once, he will make the sound one degree louder; if this is not enough wait a short while and buzz once more. Two buzzes is a signal for him to lower the sound, one degree each time he gets two buzzes. If something is wrong with either picture or sound, other than being too loud, or not loud enough, buzz the operator three times to call his attention to it. Do not continue to buzz after this. If the trouble is not corrected notify the manager at once. If the screen goes blank while there is still sound, buzz the operator three times. If the screen goes blank and there is no sound, buzz the operator three times and then go down the aisle to see whether light can be seen in the booth. If you can not see any light it is an indication that the fire shutters have dropped. This does not always mean fire. Notify the manager or assistant immediately, but do not run or appear to be disturbed, or in any way give the patrons the impression that something is wrong.

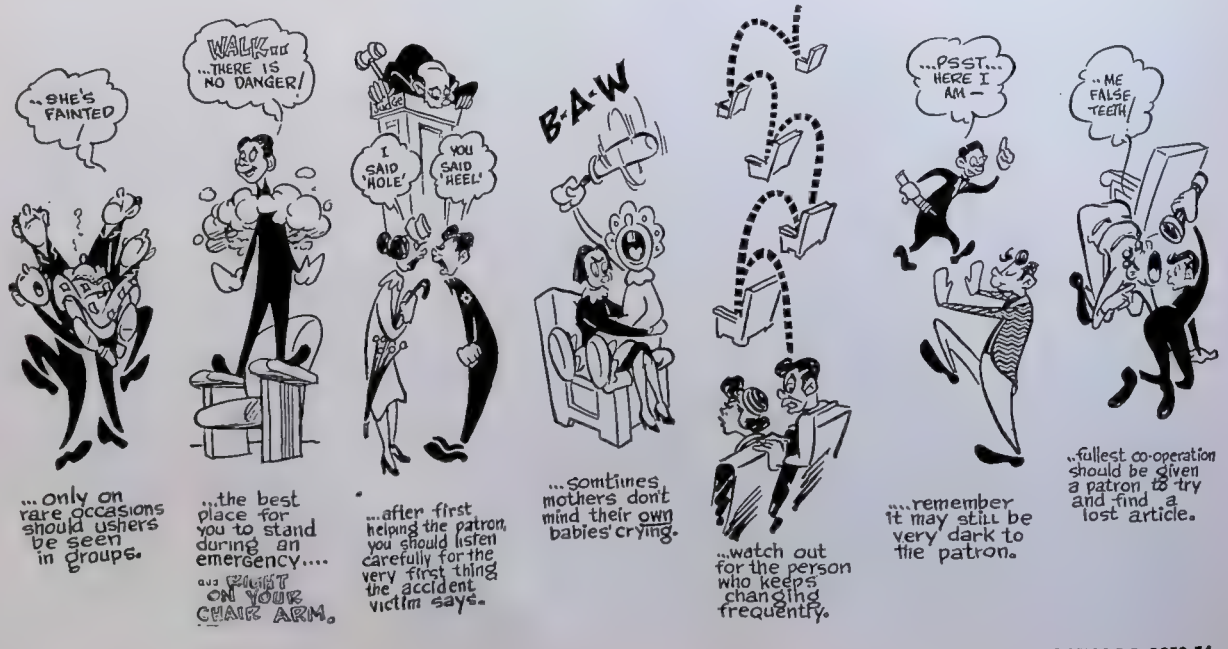
WHEN an accident occurs the staff should offer quick assistance and take note of the situation.

House Reports—The hourly house report is usually kept with the doorman's copy of the time schedule. It is to be filled out by the usher making the hourly check. It should include an accurate check of the temperature and the condition of all parts of the theatre. Any irregularity should be corrected; tissue and towel dispensers filled when needed and anything not in order and clean is to be made so. This report is far more important than you may suspect and great care should go into making it out.

Theatre Property—Flashlights, uniforms, and other articles issued in connection with your duties are the property of the theatre and are not to be used while off duty. Care should be taken of this property at all times.

Breaks—"Break" is a term used to describe a time when there are many persons leaving the theatre at one time. Usually this is at the end of a feature. However, if you opened your theatre to a good crowd and started with the feature then the break would come at the end of the short subjects. At all breaks you should watch for accidents as about 75 per cent of them occur during these times.

Closing—After the box office is closed all moveable display frames should be turned around so that patrons leaving the theatre will see them. The closing usher or ushers should patrol the balcony, main floor, and loges about every fifteen minutes to make certain everything is in order. The house report is to be kept right up to the time of closing and the time of closing noted on it. When the final break comes, a check should be made of all sections of the theatre, in-



cluding the store rooms and other places where the public is not supposed to go, to be sure no one remains inside. Seats and floors should be inspected to recover lost articles and to be sure no cigarettes are burning. Check to see that all water faucets are turned off, and finally, check to see that all lights, air-conditioning or fans are off and all doors locked.

The Public

Thoughtfulness, common sense, and courtesy are your three most important tools. When in doubt as to how to handle any situations, simply let these courses of action solve it for you.

Never command a patron to do anything. Always request them to do what you want. For example, if you want a patron to stop blocking an aisle, form your request like this: "Pardon me sir, would you mind stepping to one side please?" When a patron has complied with any request you make of him, be certain to thank him.

In moving about you should carry yourself erect and walk briskly. The brisk walk does not apply, however, if you are seating people who are not inclined to walk briskly themselves. You should never run. Never step in any directions without first looking where you are going. Your standing position should be erect, but not stiff. Never lean on or against anything or otherwise effect a sloppy posture. Balance your weight on both feet for maximum comfort.

If asked a question, first make sure that you understand it. Then, if you know the answer, give the patron your undivided attention and look directly at him while answering. If you do not know the answer, excuse yourself and explain that you are going to find out.

Always regulate your voice in keeping with the part of the theatre you are in, and the duty you are performing. This ranges all the way from a loud resonant voice when you are outside "barking," to a voice just above a whisper when you are near people watching the show. Speaking in a low voice in the auditorium also tends to make patrons do likewise.

Use of the proper phrases will help you fill the theatre with little difficulty. A good usher will not have people waiting for seats in the center when there are seats available on the side or down front. Phrases like "The second aisle on the left, please" should be used instead of saying the "last aisle to the left." Never say "take seats" and then indicate a section of the theatre. Advise them where the seats are, but do not command them to take them. Sometimes it takes salesmanship to "sell" certain seats. You may suggest taking seats temporarily down front or on the sides, and moving to other seats when they are available. If you talk to a patron in the correct manner you will have little difficulty, and the patron will often stay in the seat he first takes. If it is necessary to ask a couple to take single seats you should always try to get them seated together again as soon as possible.

Never say "Ssh" to a patron who is talking. Instead, when necessary, step up to him and inform him that he is disturbing others in the vicinity. Then thank him for anticipated cooperation, and leave.

When more than two ushers gather in one part of the theatre for a conversation it makes a bad impression on the public. Some special tasks, such as putting up a large display, do require a gathering of ushers, but this is understandable. Unnecessary conversation with friends or other employees should not take place while you are on duty. If you must talk at length to anyone, get permission to leave your post.

Special Situations

Fire—In spite of the fact that fire and panic may never be experienced by most theatre employees, it is very important to know what to do in an emergency. Always remember that your knowledge and behavior could result in the saving of patrons lives. Never mention the word "fire" within hearing of a patron.

Panic itself is more dangerous than the actual fire. An orderly withdrawal can empty a theatre in a short time, but if the audience stampedes or panics, there is likely to be a jam-up at the exits so that very few get out.

If there is smoke in the theatre, notify the manager or assistant immediately and then search for the cause of the smoke. Sometimes the ventilating system will pick up smoke from outside and this will make patrons nervous. Or a motor burning out can cause a great deal of smoke. In most instances there is no danger to the audience. When this is so, patrol the aisles carefully to make sure that no patron starts running out; this could cause the entire audience to start running. Appear calm and untroubled. If someone asks what is causing the smoke, give him a logical answer. If the smoke is very heavy you should make this announcement, on the manager's authority, every few paces, as you patrol the aisles: "Kindly remain seated. There is no danger." This must be said in a calm even voice.

Should a serious fire develop, there is more need for calmness than ever. The manager should appear on the stage and in a calm voice announce: "As a precautionary measure, we should like to clear this theatre as quietly as possible.

AS PART of its goodwill program outdoor theatres may even go so far as to change patrons' tires.

There is no danger if you walk quietly to the nearest exit." He should then point out the exits. Ushers should see that all exit doors are opened. Again, WALK, do not run. If anyone should fall down, either get them to their feet or out of the way as rapidly as possible. Ushers should stand on seats near the exit door and direct patrons in a calm voice.

The doorman, of course, is responsible for the front doors and he should open them immediately. Ushers are to take care of other exits.

An interesting sidelight to this is that the Production Code, under which nearly all Hollywood movies are made, forbids the use of any scene where anyone shouts "Fire."

Accidents—Any accident, such as a person falling, should be reported to the manager or his assistant immediately. Give all possible assistance to the patron and listen carefully for the very first thing the accident victim says, because this is likely to be the truth. A lady can hardly win a false suit for damages for having tripped over what she says was a hole in the carpet if you remember that she said at the time, "I should have had that heel fixed before now."

However, getting this information is secondary, although important. Your first duty is to help the patron with whatever service you may give. Never comment about the insurance company taking care of the patron, or make any reference at all about insurance. Withhold any personal opinion you have regarding the accident until you can speak privately with the manager. The name and address of the person having the accident should be obtained, as well as that of witnesses.

If a person seems to require first aid, notify the manager. He will arrange for the services of a doctor if the patron's condition is such that it is necessary. In cases of fainting, have the patron lie down with the head slightly lower than his body and provide smelling salts. If the person who has fainted is with someone let him or her administer the smelling salts. Never give a person anything internally. If requested to do so by an accompanying person, let the person requesting it give it to the ailing person. Do not express your opinion of an injured person's condition except to the manager. A calm, cool manner while providing first aid does much to keep excitement in check.

Drunkenness—An intoxicated person should be handled very carefully. There are three main types: the noisy, the sleepy, and the dangerous. In many cases it is a waste of time to try to reason with them. In the case of the sleepy type, a good approach is to nudge him and say, "Pardon me, but you are missing the best part of the show," then leave.

If it becomes necessary to get an intoxicated person out of the theatre, one way is to tell him that a friend has asked for him outside. When outside, you can tell him that the friend has left, give him a refund pass and suggest that he take a walk until he feels better. In extreme cases call the manager.

Crying Babies—Sometimes parents become used to their baby's crying and it does not bother them as much as it does other people, and they remain in the auditorium while the crying continues. Such cases are to be handled carefully. When necessary tell them in a quiet voice, "I beg your pardon, but the child is disturbing others. Thank you." If this doesn't work, return and tell them "I am sorry but would you mind taking the baby into the lounge until he is quiet?" After this, if the baby continues to cry and the parents refuse to take him out of hearing of others, call the manager.

Mashers and Perverts—Mashers are men who try to pick up women they do not know. Peverts are nearly always men, who try to lure children, both boys and girls, into indecent behavior. You should be on a sharp lookout for both types at all times.

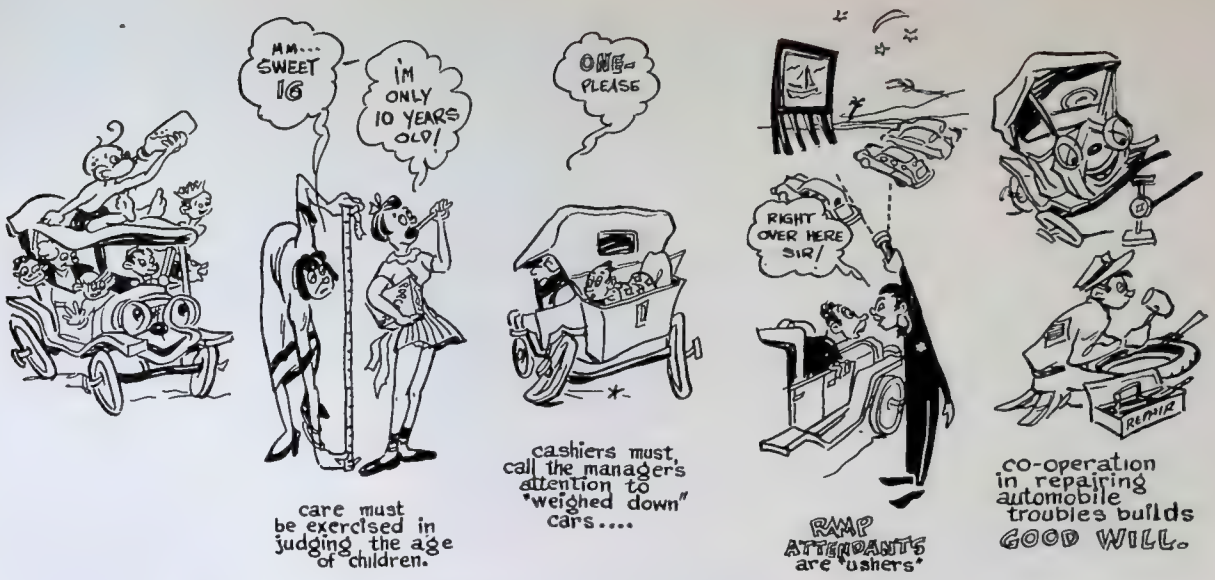
These persons usually make their advances in places other than theatres, but since they do occasionally try it in the theatre, you must be watchful for them and see that they are arrested when there is proper evidence.

The masher can usually be spotted because he changes his seat frequently, always selecting one close to a woman or a girl. Many people change seats for good reasons and intend no evil, so it is important that you be sure which is the case. If a man moves from one seat to another near a lady, walk slowly past him and make certain that he catches your eye. Thus he will know that he

is being watched. If, later, the lady moves from her seat, notify the manager. If however, he again moves to another seat, again by a woman, go to him and suggest that since he is having trouble finding a suitable seat you would like to show him a seat elsewhere.

Sterner measures are to be taken in the case of the pervert. He, too, will change seats, always sitting close to a child who is either alone, or without adults nearby. Note also if a man sits by a child when he first comes in the theatre and watch him carefully if he does; most adults prefer to be away from children in a theatre, as the children are likely to make noise. If a man

RAMP attendants should see to it that cars are parked and the in-car-speakers in good condition.



changes his seat to one beside a child, notify the manager immediately. The manager will try to get enough evidence to have him arrested.

During special shows for children, no adult must be permitted to sit in the children's section, for any reason.

Lost and Found—If a patron loses something in the theatre you should give your fullest cooperation in trying to find it, regardless of the value of the object. Use your judgment as to the amount of disturbance that should be permitted in the search. If you are unable to locate the object, and you have the time, write down the person's name, telephone number and a description of the lost article and tell the person that the manager will telephone the next day, after a thorough search has been made. However, if other patrons require your time, you may ask the patron to telephone the next day.

When a patron telephones to ask if a certain item has been found you should never tell him definetly that you have it. Tell him simply that you have an item of that general description, if you have it. If you tell a person that you have the lost object and it turns out to be the property of someone else, you will have put yourself and the management in an embarrassing position. After holding items for two weeks, all that are not claimed, should be turned over to the main office, or any other place specified.

The Curbman

In busy shopping sections of cities a curbman (sometimes called the barker) can be of great importance to a theatre. He may have direct bearing on a theatre's receipts according to his knowledge, conduct, and proper wording of answers to questions. A curbman must know the daily schedule and be able to tell a prospective patron the precise time he will be out. There is suggestion and assurance in his repetition of "There is no waiting for seats"; "Choice seats available throughout the theatre at this time." He must be in constant touch with the manager for revision of his announcements.

A curbman must at all times know the names of stars appearing in the features and be generally well-informed about the attractions so that he may answer the questions of passers-by with intelligence. A curbman, of course, should assist patrons upon entering or leaving their autos, greeting them with a pleasant, "good evening," or "good afternoon."

He should keep disorderly people and youthful pranksters moving and see that they do not gain entrance to the theatre. It is also a curbman's duty to see that the cashier does not sell a ticket to anyone whose appearance indicates he may not conduct himself properly, and he should see that the sidewalk is clean.

A curbman being out front, gets to familiarize himself with the general public. He should not hesitate to give a cordial greeting to anyone he recognizes, whether the person is entering the theatre or not. He represents the theatre service and should be courteous at all times.

The curbman should be on the alert to note suspicious persons at, or observing the box office, and should not hesitate to notify the manager. The curbman should also help the cashier in apprehending short-change artists. When the curbman observes procedure such as this, he should ask the customer to wait and then call the manager. If the customer is honest, he will wait; if not, he will hurry away.

Assistant Manager

There is an important responsibility attached to this job. The neatness and snap of the service staff, the thoroughness with which the cleaners freshen up the theatre's appearance, seeing that equipment is in good running order, are as much a part of his duties, as the manager's. The latter alone cannot perform all the duties that develop upon the executive head of a modern film theatre. All these details of management require constant attention, and it is the assistant's duty to relieve his superior of many of the necessary details.

He should not confine his activities to detail work that should be taken care of during the morning hours before the house opens, or during the afternoon hours. Most of his time during the performances should be spent on the floor, checking the neatness and cleanliness of the lobby, foyer, and rest rooms, and always available to answer pleasantly any questions or complaints on the part of patrons. He should follow up the cleaning crew to see that no part of the house has been left dirty or cluttered up, with double attention to the auditorium which is a good part of a theatre's "come again," to patrons, especially when it is kept pleasant in atmosphere, of which perfect cleanliness is a necessary part. Anything he may do personally to please a patron helps build good will and gives the theatre the "come again" atmosphere that every theatre should strive to establish. Little personal attentions give patrons the feeling that their patronage is appreciated.

The manager cannot be in the theatre at all performances; he is often called away on matters pertaining to bookings, to the upkeep of the house and its equipment. It is up to the assistant manager to be able to meet all emergencies that may develop, and to meet them tactfully and peaceably, regardless of the cause or reason.

DRIVE-INS

Drive-in theatres differ only in detail from the operation of conventional "brick and mortar" theatres. Sometimes the "detail" can loom pretty large. But the same objectives, the same rules of

courtesy and service to patrons, and the same guides for employee conduct prevail.

Each member of an outdoor theatre staff has his or her counterpart in a drive-in theatre. In many cases the drive-in employee has a far greater opportunity to provide service than the equivalent employee in a conventional theatre.

It is at the drive-in box office that the interesting and varied character of its audience is most in evidence. Here is proved the fact that most drive-ins enjoy the patronage of fine, happy families. The number of children in many cars is amazing. Sedans and station wagons have been observed with seven, eight and nine children, all of whom are under 12. Their parents, or other adults, appear in almost every imaginable state of dress and sometimes undress—shorts, bathing suits, even pajamas. It is obvious that these people are out for a pleasant, informal and wholly relaxed evening.

The entire staff beginning with the cashier, must dedicate their efforts of service and courtesy to insure pleasure and safety of these people.

Cashiers

Cashiers in a drive-in are the major source of information for entering patrons. They must know the correct answers to all questions about the show and the theatre, and should respond quickly and accurately. This eliminates the possibility of delay of entering cars and prevents interruption in the flow of traffic between the box office and the parking ramps.

Indoor theatres have long been plagued by patrons who forget their tickets or change at the box office. In a drive-in the consequences of this are more difficult to control and can cause traffic snarls and irritating delays for following patrons. This must be prevented. The use of the simple phrase, "Wait for your tickets and change please," at the time money is tendered by the patron, does this effectively. An important point of both service and safety is provided by the cashier in saying, "drive with your parking lights, please," as her last contact with each individual car.

The cashier additionally performs some of the duties of the doorman. She tears tickets at the time of sale, giving stubs to occupants of the car and disposing of the remaining stubs in containers provided. She also keeps the Doorman's Report as a record of cars which entered without tickets, such as other employees, delivery cars, company executives, etc.

Cashiers must have available information on the number of patrons at any given time during the evening, and on the number of cars which may be present. This information is important to properly prepare for intermissions at the refreshment building, especially at times of capacity business.

Cashiers must train themselves to be ever watchful for unusual circumstances or abnormal behavior on the part of the occupants of any car. They must call the manager's attention to any car which seems to be extraordinarily heavy or "weighed down" upon its springs. This can indicate "patrons" hiding in luggage compartments, etc. The action dealing with such cars is the manager's responsibility.

Great care must be taken in handling money. The cashier must tell the patron the total number and value of the tickets purchased and the amount of money which the patron offers. This must be invariably done in order to preclude any mistake and any dispute concerning the transaction. This is vitally important since the cashier must take the money into the box office, out of sight of the patron, and return with tickets and change.

Care must be taken to prevent money dropping into the car window glass opening in the door and particular caution must be used on windy days to keep currency from being blown away and lost.

The cashier must use judgment in estimating the age of children. It is more difficult to estimate the age of a child sitting in a car than when the same child walks openly to the box office of a regular theatre. Rules for handling this situation are the same as for indoor theatres. Tact and care is often required to protect the theatre interests.

Because of the exposed position of the drive-in box office, with a lane of traffic usually moving on each side and with the doors open, the cashier must use particular care in safeguarding the theatre's funds, and must insist upon the prompt removal of accumulated cash.

The cashier should never hesistate to call the manager to investigate any car which may stop in the theatre entrance, or on the adjoining street or highway, whose occupants seem to show interest in watching what is going on.

Ramp Attendants

Ramp attendants are the ushers in a drive-in theatre. They must guide the flow of automobile traffic into the parking field with minimum delay to the patron. They must be completely familiar with the use of in-car speakers, and be ready to promptly exchange faulty or improperly operating units for spare units in good condition.

DRIVE-IN doormen presenting smiling faces and a cooperative attitude while serving the patrons, quite often means as much, if not more than the service which they perform. The success of an outdoor theatre hinges on such small points.

They must be ever watchful for evidence of misconduct and accurately spot and report cars in which persons may be hidden, to avoid buying the proper number of admission tickets.

They must guard the security of the theatre field by preventing the unauthorized entry of cars through exit streets, service roads and over or through boundary fences.

They must be continually aware that the theatre and its staff, have a moral liability, and in some cases a legal liability, for the safety of patrons and their cars. They must be thoroughly familiar with all traffic rules and quick to enforce them. In case of accident or injury, they must accurately observe the circumstances and take the necessary action.

The field staff can provide a tremendous amount of personal service which builds public good will. Cars will inevitably get flat tires, run out of gas, develop dead batteries, and have all manner of minor mechanical and electrical trouble. Free service should be provided to take care of these things, with the exception of the cost of emergency gas and any cost for having a tire repaired at a nearby service station. Service of this kind, promptly and courteously rendered, builds an enviable reputation for theatre and its staff.

By its nature, a drive-in theatre requires a vast amount of minor maintenance and repair. Much of this is assinged to the field staff, and must be done during theatre operating hours. Employees must take the initiative in such things as replacing burned-out ramp and speaker post lamps, which create many hazards to cars moving in the darkened theatre. When otherwise unoccupied, ramp attendants are assigned to many of the small jobs needing attention. At intermissions and at the conclusion of each show, ramp attendants guide and direct traffic. By thoroughly knowing their jobs and being ever aware of potential dangers, they can prevent accidents. The extremely important job of controlling the movement of cars from the theatre area into the streets and highways which serve it, must be handled by trained, qualified men.

CONCLUSIONS

Today the entire motion picture industry is making a joint effort to get the public back into the theatres. Such things as 3-D and wide screen systems have rekindled the public's interest. It is most important then that when the public does return, nothing is done to antagonize or drive them away. It is this thought that makes the proper training and handling of theatre staffs so vital.

While the material found in this article was prepared by and for one theatre circuit, it could very easily apply to all theatres, large and small. The staff is of paramount importance to the success or failure of a house. However, it is up to management to see that it is aware of its duties.

Safety Precautions for Theatre Personnel

A Carefully Prepared List of the Duties of The Staff To Prevent and Fight Fire and Panic

BRIEF: *Theatremen . . . as a rule . . . are easy-going and optimistic fellows . . . to whom disaster appears a distant and unlikely contingency . . .*

Fire, however . . . and the awesome panic which often accompanies it . . . plays no favorites . . . A theatre, therefore, must be fully prepared to meet such emergencies . . . with more effective means than slipshod fire drills and inspections . . . The following safety measures have proven invaluable for theatres.

Unfortunately, fire is a calamity that strikes without warning, throwing theatre audiences into a state of panic. Feeling trapped and helpless, people react violently to any sudden appearance of flame and smoke.

Fully aware of this menace, one of the larger theatre circuits recently re-examined the whole problem of fire and panic prevention. It formulated a forthright and simple list of safety practices, which it distributed to all employees.

One of these, frequently confirmed in use, stands out with special significance. It is described as CALMNESS in the face of an emergency, an attitude possible only when members of a staff are thoroughly rehearsed in safety precautions and, therefore, sure of their roles in case of fire or other disaster.

A staff which is calm itself not only can get the attention of an audience but can hold it with assurance while coping summarily, for example, with a small, smoky blaze in the basement. And during the course of a really serious fire, while members of the audience are being whisked from a burning building, a calm front may stave off complete chaos.

This is the list of do's and don't's in prevention of and in case of fire, broadcast by the circuit to its employees:

Manager

1. Will be thoroughly familiar with all local ordinances relating to fire prevention, fire protection and safety in the theatre. He will be responsible for the safety of all patrons and employees in the building through his supervision in carrying out every regulation in this outline.

2. He will inform all of his employees of the local ordinances mentioned in Number 1 above.

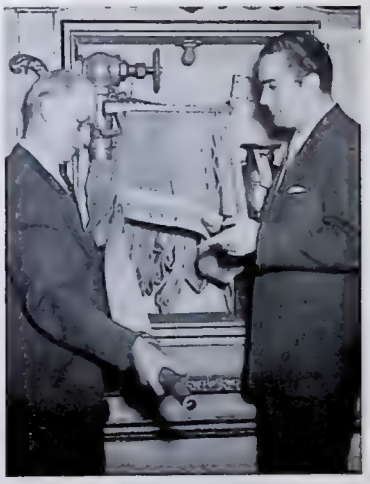
3. He will make daily inspections of all exits, panic bolts, etc., making more frequent checks of exits during freezing weather to make sure the doors are not frozen tight. In the event panic bolts are not working properly, this situation will be corrected without ANY DELAY.

4. A weekly inspection will be made of all first-aid and fire-fighting equipment, making sure that they are in their proper places and in working order.

5. Make immediate investigations of all reports from employees or patrons of possible hazardous conditions, such as blocked aisles or doorways, torn carpets, excessive trash in rest rooms—just to mention a few. Have the hazardous condition remedied immediately.

6. Maintain strict supervision over the disposition of refuse. See that it is collected as often as possible by some means.

7. Maintain strict supervision over the storing of cleaning materials or any other inflammable material. Keep in a fireproof storage place, allowing no smoking around them.



FIRE HOSE UNITS must be inspected regularly to make sure they are in good working order. Ronald Penny, left, chief engineer, and manager Eugene Pleshette check one of the 44 fire-fighting units at the Paramount, Brooklyn, N. Y.

8. Have air ducts thoroughly cleaned at regular intervals, allowing no trash to accumulate in them.

9. Make a personal tour of inspection of all parts of the theatre daily to insure that all safety regulations and precautions are being carried out properly.

10. Explain to all ushers exactly which lights must be burning at all times when the theatre is open to the public. Instruct them to observe all of these lights and advise you or your assistant immediately if any of them are out. Replace them without delay.

11. Station at least one usher inside the auditorium on each floor that is occupied during operating hours.

12. Maintain strict personal supervision over crowds when the theatre is filled and people are waiting in line. Hold lobby standees to an absolute minimum.

13. Arrange for a fire drill prior to opening time at least once a month. This will be done at a time when most employees are on duty.

Emergency

1. As soon as smoke or any signs of fire are detected, make an immediate and hurried examination. Unless you are ABSOLUTELY SURE BEYOND ANY DOUBT that it is minor and an extinguisher will put the fire out, call the fire department at once. This is where a great deal of good judgment and common sense will have to be exercised quickly. In many fires, a few minutes delay in calling the fire department has cost many lives. If the fire department is called, don't sit and wait for them to arrive. Use all proper emergency extinguishers at hand to fight the fire and hold it in check.

2. If it is necessary to evacuate the building, make a CALM PERSONAL appeal, in full view of the audience from the stage if possible, explaining that there is an emergency and that the building must be evacuated. Ask that they WALK quietly to the nearest exit. You must be calm in appearing before the audience so as to reflect a calmness in them. Tell them that you are the manager.

3. Direct the emergency fire fighting until the fire department arrives.

During the manager's absence the assistant or an appointed person will be in charge of the theatre and will carry out the manager's duties.

Assistant Manager

1. Assist the manager in the discharge of his duties.

2. He will be qualified to carry out all of the duties of the manager listed above.

3. In the absence of the manager, the assistant will assume the responsibilities and duties of the manager.

4. In the absence of the assistant, a person familiar with all parts of this paper will be designated in charge of the theatre.

5. In case of an evacuation, see that all exit doors are opened. Notify operators.

6. Assist every way possible in the evacuation.

Operators

1. Report to the manager immediately any equipment found in improper working condition.

2. In case of fire, drop shutters in the projection booth immediately.

3. Upon receipt of notice of evacuation from manager or assistant, turn up house lights, drop shutters, turn off machines and turn off all other high voltage possible without putting out house lights.

Cashier

1. Make any phone calls as directed by the manager or assistant.
2. Put all currency and boxoffice statements in cash box and evacuate the building.

Ushers

1. Make a practice of observing all lights that are supposed to be burning when the theatre is open. Report to the manager any that are out.
2. Report to the manager any condition observed that may be hazardous, such as: burned out lights, torn carpets, excessive trash in aisles or containers, blocked aisles or doorways and any other condition that you think might be dangerous.
3. Report to the manager any persons who refuse to abide by the regulations.
4. Be thoroughly familiar with the location and use of all emergency fire fighting equipment.
5. Be familiar with the location of all exit doors.
6. Be on the alert for people who might light matches to look for lost articles on the floor. As soon as they are seen, go straight to them even if you have to go between the rows to reach them. Help with your flashlight. This is very important and very serious.
7. Always be on the alert so that the first signs of smoke or fire will be detected immediately, in the event that they should occur. Remember that the lives of many people may depend upon your alertness.
8. In case it is necessary to evacuate the building, see that all exit doors are open. The ushers stationed on the right side of the theatre open the doors on that side and the ushers on the left side open the doors on that side. Then aid in keeping the crowds orderly.

Doormen

1. See that patrons put out their cigarettes as they enter the theatre.
2. Observe people in the lobby and see that the No Smoking order is observed.
3. In case the theatre must be evacuated, open all outside lobby doors at once. Aid in keeping the crowd moving out orderly.

Popcorn and Candy Attendants

1. Be familiar with the location and use of emergency fire fighting equipment.
2. Do not allow trash to accumulate around the counters.
3. Keep popcorn machine spotlessly clean at all times.
4. In case of evacuation, take cash, disconnect power lines, and leave building.

Maintenance Personnel

1. Keep all fuse and switch panels clean and closed up. Check constantly for faulty or worn wiring.
2. Be familiar with the location and use of all emergency fire-fighting equipment.
3. Replace burned out lights promptly.
4. Report to the manager any dangerous condition that you might find.
5. Keep heating room and other parts of the basement in orderly manner.
6. In case of a fire, assist in fighting it with emergency equipment until the fire department arrives.

Porters

1. Learn the location and use of all emergency fire fighting equipment.
2. Store all cleaning supplies and equipment in proper place at all times and in an orderly manner, so as not to block doors or passageways.
3. Empty refuse cans in rest rooms and lobbies frequently. When emptying, inspect for any lighted cigarette butts.
4. Report to the manager any condition that needs repairing or replacing.
5. In case the theatre must be evacuated, check the rest rooms to make sure that people are out of there. Then assist the manager or assistant in any way possible.

Maids

1. Report to the manager any condition observed that needs to be corrected, such as torn carpets, blocked passageways, etc.

IN THE PROJECTION ROOM, hot carbons should be discarded in a special metal container, and a fire extinguisher and sand bucket should be within easy reach for immediate use. Projectionist is Frank Hoffman, Paramount, Brooklyn, N. Y.

2. Empty trash cans in the ladies' rest rooms often and inspect for live cigarette butts.
3. Keep all materials properly stored.
4. If the theatre has to be evacuated, see that the ladies' rest rooms are empty.

Good Management

Everyone must be alert at all times. The lives of many people are in your hands. How well you perform your duties in an emergency may be the difference between life and death to others . . . Think . . . Act quickly and properly . . . And above all, BE CALM, more deaths are caused by panic than fire. If you are calm, the audience will more than likely also remain calm.

The enumerated safety rules are merely good theatre management. Every theatreman knows best how each of these basic rules fits his situation.

Fire Prevention

Certainly, the first line of defense is a thorough-going, well-observed program of fire prevention. The preceding summary is a theatre circuit's efficient approach to the ever-present problem. Here is another. It is a check list of fire prevention measures assembled some years ago by the Maryland State Board of Motion Picture Censors and the State Insurance Commissioner in a joint investigation of theatres throughout that state. Special report blank included the following questions:

Is a "No Admittance" sign posted at entrance of projection booth?
Do ushers or other unauthorized persons frequent booth?
Is operator experienced and careful in his duties?
Are "No Smoking" signs posted in booth?
Was anyone smoking in booth?
Are walls free from posters, pictures, placards, etc?
Is booth clean and orderly?
Does booth contain clothing, magazines, newspapers, furniture?
Are shutters on peep and focus holes in good working order and are they held open except by fusible links?
Is film in booth kept in an all-metal cabinet?
Is there a can with a self-closing lid for scrap film?
Was any film found outside of booth; how much; where?
Does amount of film cement in booth exceed three ounces?
Is there a sand pail for hot carbon?
Is there any temporary or defective wiring in booth?
Are there any portable emergency heaters in booth?
Is there a carbon tetrachloride extinguisher in booth?
Are aisles and stairways to fire exits clear?
Are exit lights properly maintained?
Are "No Smoking" signs posted in auditorium?
Is smoking permitted by audience or others?
Are suitable ash trays provided in rest rooms?
Is heating plant enclosure free of rubbish, ashes, and odd storage?
Are ashes deposited in metal containers?
Is oil burning equipment defective, improperly maintained or leaking?
Are metal containers provided for paper towels in rest rooms?
Are janitors' used cleaning rags properly disposed of?
Are stage dressing rooms clean and orderly?
Are extinguishers in theatre conspicuously located and are soda and acid extinguishers recharged annually and dated?

A Daily Habit

Under the glass of each manager's desk and on the wall of the projection room—these simple questions will eliminate many headaches, prevent many fires, preclude many panics, save many lives. Fire prevention in theory is easy to understand and sounds extremely reassuring. But it goes to work only for those theatremen who practice it daily and who make check lists like the ones above the beginning, and not the end, of theatre fire prevention.

Push Button Parking

An Analysis of the Completely Automatic System That Might Be the Answer to Midtown Theatre Parking Woes

BRIEF: ***One of the most pressing problems facing operators of theatres in congested areas is the lack of parking space . . . Many patrons are refusing to risk coming to town only to discover that they cannot find parking space . . . or may have to pay for it . . . Many solutions have been offered . . . but most of them have proved themselves unworkable.***

. . . A recently developed system known as Alkro Integral Parking . . . may be one of the answers to the situation . . . Capable of being built right into the heart of a building the system is completely automatic . . . The only one to ever enter the automobile is the owner . . . and in a test operation in Houston, Tex., over 220,000 cars have been parked and unparked with practically no sign of wear either on the machinery or the cars . . . With the recent lifting of certain restrictions on construction and material . . . Alkro Integral Parking might be considered by possible builders of large midtown theatres.

One thing which is a constant source of wonder to all who come to the United States is the amazing number of automobiles that are to be found. To them it seems as if everyone has his own car. This wonderful example of the benefits of living in a free democratic society, however, has a drawback of which theatre owners have long been aware. The simple fact of the matter is that there are simply not enough facilities to park the numbers of cars that are on the roads.

Parking Problem

The unhappy result of this situation is that movie-going is becoming increasingly difficult for the average family. Faced with the problem of riding on overcrowded streets and the probability of having to spend a great deal of time and energy looking for a parking space, only to discover that there is none, the average movie-goer will often decide to stay right at home with his television set. If the situation continues to worsen, and it appears that it will, the conventional theatres in metropolitan areas may be faced with the alternative of either supplying some sort of parking facilities for their patrons, or run the risk of having to close their doors.

Being aware of a problem and being able to do something about it are two vastly different things. In the majority of cases metropolitan theatre operators find that there is not enough center city property available for parking lots or garages, even if they desired to supply their customers with this service, All sorts of solutions and systems have been expounded and experimented with, and most of them have been found to be unworkable and impractical. One answer to this important parking problem might be found in a revolutionary new patented method of parking known as Alkro Integral Parking.

ALKRO INTEGRAL PARKING

Recently perfected in Houston, Tex., Alkro Integral Parking represents the results of much research and labor. The name "Alkro" is derived from the names of the inventor, Mihai Alimanestiano, a graduate engineer, and Cornelius Kroll and Company, engineers. "Integral" denotes the adaptability, both from a physical and economic standpoint, to incorporating these parking facilities as an integral part of a building, just as passenger elevators, heating, lighting, and air-conditioning have become integral parts of such buildings.

System Is Automatic

The system is entirely automatic. It consists basically of: (1) A standard automatic elevator, (2) a conveyor mounted on the elevator platform and supports a series of horizontal transverse members, four inches wide and spaced five inches apart, that can extend laterally to either side of the elevator shaft, and can raise or lower six inches.

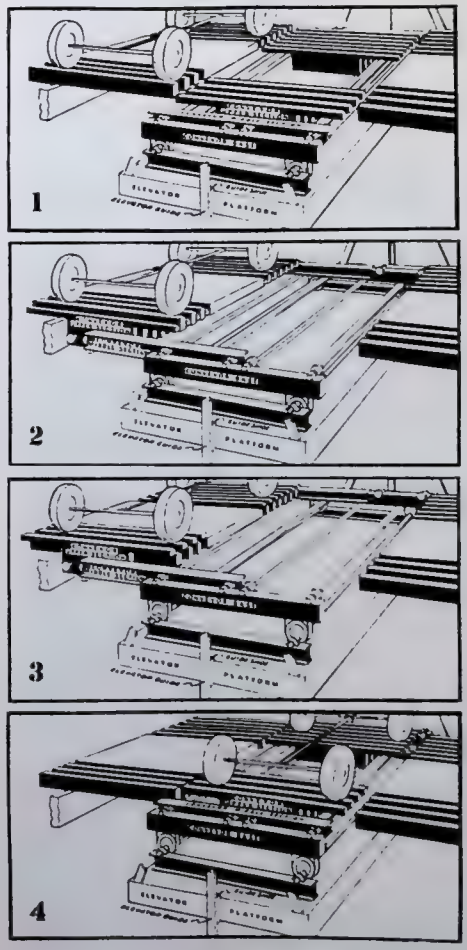


Diagram Showing How a Car Is Picked Up by The 'Alkro' Conveyor

1 The elevator upon which the conveyor is mounted is stopped at the driveway level ready to pick up a car.

2 The transverse members of the conveyor then extend laterally into the spaces between the transverse members of the driveway at a level 3 inches below the level of the driveway members.

3 The conveyor raises 6 inches to a position 3 inches above the level of the driveway, which gently raises the automobile now on the conveyor members to 3 inches above the driveway floor.

4 The transverse members of the conveyor then retract onto the elevator carrying the automobile with them onto the elevator. The elevator with the automobile ascends or descends as required.

To Place the Car in a Stall, the Above 4 Steps Operate in Reverse

The shelves consist also of a series of horizontal transverse members four inches wide and spaced five inches apart, lined up in such a way as to permit the transverse members of the conveyor, when they extend laterally, to intermesh with them without contact.

An elevator and conveyor serves two vertical rows of shelves, which are the automobile stalls, one on each side of the elevator shaft. The number of floors spaced eight and a half feet apart, can range up to 50. Thus an elevator can serve up to 100 automobile stalls. A unit consisting of an elevator shaft with automobile stalls on either side of it ocupies an area of 24 feet by 25 feet or 600 square feet, and can serve up to 100 automobiles. Thus the actual ground area per automobile stall can be as little as six square feet, and can utilize the least desirable area of a lot. Another great advantage of this design is that the elevator shafts alongside the driveway, make possible the flexibility of grouping of any number of parking units either end to end or side by side.

System in Operation

In operation, the system functions simply.

1. The automobile is driven by its owner into the driveway, the floor of which consists in part of horizontal transverse members like the previously described shelves or parking stalls. The owner steps out of his automobile onto a sidewalk and can leave the brake on or off, leave it in gear or not, or lock the automobile door or not, as he wishes.

2. The attendant gives him a ticket and pushes the corresponding button.

3. The button puts into operation the fully automatic parking cycle. The transverse members of the conveyor move laterally into the spaces between the transverse members in the floor of the driveway at a level three inches below the level of the driveway members. The conveyor on the elevator platform then raises six inches to a position above the level of the driveway, which gently raises the automobile, now on the conveyor members, to three inches above the driveway floor. The transverse members of the conveyor then retract onto the elevator carrying the automobile with them on the elevator. The elevator then automatically starts traveling up, stoping at a predetermined floor. The automobile is then gently deposited in a stall by the reverse operation of the cycle by which it was placed on the elevator. The elevator then starts down to the driveway level ready to pick up another automobile, or it may stop at any other floor level ready to unpark an automobile, as the case may be.

Test Operation

A full-size conveyor unit has been built and is in daily test operation in Houston. The conveyor to date has parked and unparked over 220,000 automobiles without any noticeable wear or mishap of any kind to either the conveyor or the automobiles. This is the equivalent of several years in operation. This daily operation will continue until some measurable wear can be determined.

Advantages

Due to the fully automatic operation, and the fact that automobiles are moved sideways, the parking and unparking is very fast. As an illustration, in a garage with 10 units, 200 automobiles can be parked in approximately 15 minutes, it is claimed. Parking of one automobile and unparking of another can be done automatically in a round trip of an elevator. A five-time garage turnover can be achieved in less than eight hours.

No damage to fenders, brakes, tires or engines occurs as no attendant ever enters the automobile, and no grease spots are left on steering wheels or seats.

In Alkro Integral Parking, no one gets in the automobile but the owner. The automobile can be locked if desired, but no one has access to it anyhow.

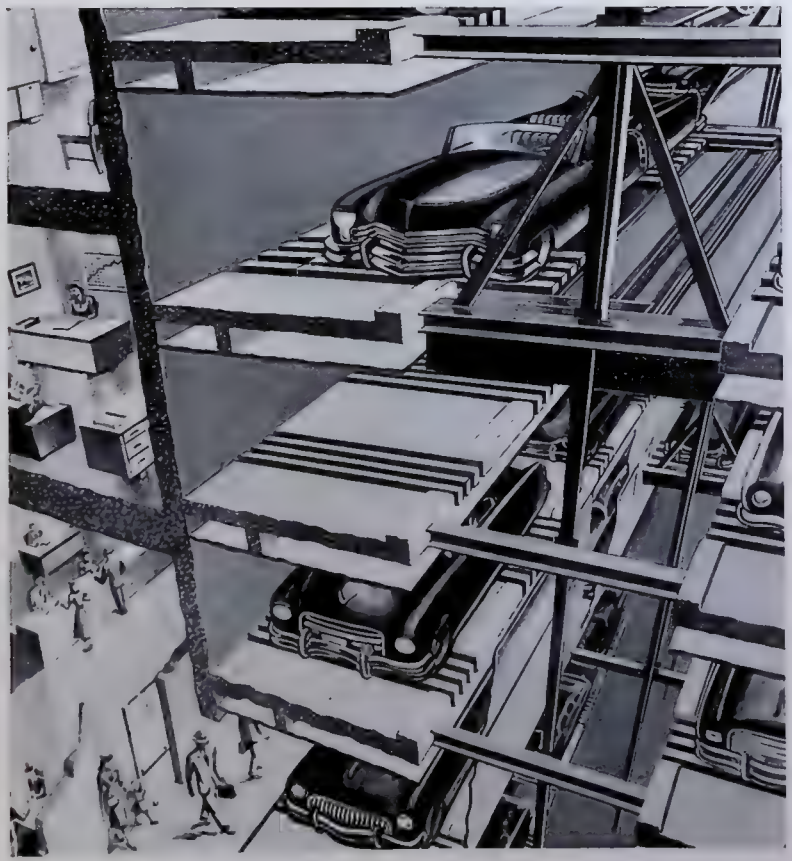
No gasoline is used to climb steep ramps, or make elaborate maneuvers, nor can it be stolen.

The very small unit space required by Alkro Integral Parking enables it to be placed in the very heart of a building, providing an ideal service to customers. They are saved the nuisance of crossing streets or walking blocks to and from parking.

Alkro Integral Parking facilities, built in conjunction with a building, cost $1300 per automobile stall. However, the value of the ground area saved by the system reduces the overall cost of installation per automobile stall far below any other parking facility, it is claimed.

A 600-stall Alkro garage can be efficiently operated with a staff consisting of two attendants and one cashier.

THIS DRAWING indicates how the Alkro Integral Parking system would be used if it were part of a building. It would offer an ideal solution to the parking problems of large midtown theatres.



CONCLUSIONS

At the present time the Alkro Integral Parking system is still in the final experimental stages. The extensive tests in Houston, however, indicate that this new method of parking cars can and does work satisfactorily. Of course the high cost of building and installation makes it impractical for smaller situations. Its main application in the theatre field, therefore, seems to be restricted to the large metropolitan movie palaces. The parking problem is growing increasingly acute, and the managements of large theatres will have to do something to alleviate the situation or face a steadily diminishing audience. With the relaxing of certain government controls on building materials and construction it appears likely that when and if the Alkro Integral Parking system is offered to the public, enough materials will be on hand to build the necessary equipment. For any who are thinking of constructing new large metropolitan houses, it might do well for them to investigate the possibilities of installing this system as part of the building. It has been proven that Alkro can work. Only the future will determine whether or not it will help to supply a workable answer to the parking situation.

Some Considerations of Drive-In Newspaper Ads

A Professional Analysis of the Value and Use Of Newspaper Advertising for Outdoor Theatres

By FRANK NOLAN
Drive-In Theatre Advertising Service Company

Advertising is the profession of creating public demand for certain commodities and services, and in no other profession are there so many divergent ideas. Practically every theatre manager fancies that he is an outstanding advertising man, and, as a matter of fact, the best managers really are. However, no two will agree entirely on the relative merits of direct mail, outdoor advertising, stunts and ballyhoo and so forth, but almost all agree that the newspaper is the primary medium of advertising for a theatre and its attractions.

BRIEF: ***Finding the best methods of newspaper advertising . . . and the correct approach to the preparation of such advertising . . . has always plagued the average businessman who . . . by necessity . . . must handle such details himself . . . The drive-in theatre operator is no exception in this situation . . . In fact . . . advertising is of possibly greater importance to him since his business is highly promotional in its very nature.***

In too many instances advertising is handled as a distracting task . . . receives only casual attention . . . with too little appreciation of its value in the successful operation of a drive-in business . . . In many other cases . . . the operator or manager finds himself at a loss on how to proceed . . . because of his lack of experience and knowledge of the manner in which advertising functions.

This article provides fundamental principles of newspaper advertising in its particular application to the drive-in theatre . . . as seen through the practiced eye of an advertising expert . . . Although the author limits the use of these principles to the average outdoor theatre . . . it could very well be the basis of operation for roofed theatres in key cities . . . as well . . . In fact . . . much of his thinking could be profitably adapted for use by average businessmen in many other fields.

This article is an attempt to cover some little part of newspaper advertising as it applies to a drive-in theatre. It is aimed only at the ordinary drive-in, operating near the average city, using average daily and weekly newspapers, and not toward key city operation.

What Newspapers?

The average drive-in theatre operator must first decide what newspapers he must use to secure as complete coverage as possible. From past experience, I have always taken a map and, using the theatre location as the center, described two circles around the location. The first and smaller circle represents primary coverage within a radius of about 20 miles. Every newspaper in any town within this circle is a definite "must." You must use these newspapers to secure complete coverage for your theatre. The second and larger circle has a radius of 40 miles. Check the territory between the two circles and determine what newspapers lying in this area you can use to advantage. Some of this may be marginal territory covered by another drive-in theatre; but, if it is not, then by all means use the newspapers within this circle, too. Always keep in mind that drive-in patrons will come 40 to 50 miles to attend a drive-in theatre.

SAMPLE SIGNATURE CUTS used by current theatres to trade-mark their day-to-day and institutional advertising. The repetition of such signatures builds their importance to the show-shopping patron.

Advertising Budget

Once you have determined what newspapers you are going to use, set up an advertising budget for your theatre. A well operated theatre will use between five per cent and seven per cent of gross boxoffice receipts per week for advertising. Less than five per cent is dangerous; more than seven per cent is wasteful. In setting up your budget, the amount of space you intend to use in each newspaper should be determined by the effectiveness of the particular paper which, in turn, is determined by its actual local and immediate circulation. It is not the press run nor the gross circulation but the actual number of papers which reach the most homes within your area that is the criterion of full coverage. This is your yardstick in deciding the amount of space you will use: a good paper that gets your ad before a sizeable number of readers who are your potential patrons is of value to you. A small weekly with a circulation of possibly 500 or 600 has a correspondingly small value to you unless it is typical of the only newspapers available. In that case, of course, its value is increased in relation to its actual coverage of your area. In other words, find how much money you can spend in newspaper advertising and proportion it according to the return you may expect from each newspaper. Remember, your advertising costs should be averaged over a period of months, such as a quarter of a year. The advertising budget should not be so rigid and inflexible as to allot just so much per week.

Scheduling

In opening your drive-in theatre, either newly constructed or reopening for a new season, your advertising should start at least one-and-a-half weeks ahead of time. Plan your newspaper advertising accordingly and hit all your newspapers at least that far in advance. In using dailies, build up the size of your ads until you sock the day before opening with a smash opening announcement ad. Naturally, you will want to supplement your newspaper advertising with other proven media, such as direct mail, outdoor posting, sound trucks, etc.

Advertising a drive-in theatre as compared to advertising an indoor theatre is as different as day is to night.

Stress Advantages

One reason for the spectacular growth of drive-in theatres is that they are different. They offer so many advantages over an indoor theatre that the public can soon be convinced that the ideal spot for motion picture entertainment during the summer months is outside, not inside. The smart drive-in theatre operator will take advantage of this fact and constantly plug these advantages. At the beginning of the season, or from a new drive-in's opening week on, these advantages must be pounded and pounded and pounded. In stressing these points, the drive-in operator is really "selling" his drive-in theatre to the public. Following is a partial list of such advantages and these should be strongly emphasized in your newspaper advertising:

Come as you are—you don't have to dress up.

Kiddies under 12 are absolutely free.

Smoke all you please and when you please.

Relaxation in the fresh air.

No baby sitters needed — bring the kiddies free and save this cost.

Bottle warmers available for warming the small fry's bottle at no cost—bring the baby.

Courteous ushers to park you.

Two shows nightly—rain or clear.

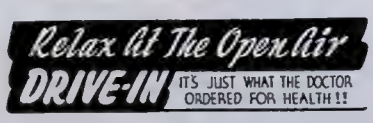
Come and go as you please.

No parking problem—you don't have to hunt for a parking place and then walk blocks.

Privacy among thousands — your car is your own theatre.

Each of these points may appeal to a different potential patron: for instance, a man with several children is interested in the baby sitter angle while an old bachelor who is a heavy smoker will be attracted by the smoking angle, and the farmer or the factory worker may be attracted by the "don't dress up" angle. Therefore, each of these angles should be definitely sold to the public since, in selling the advantages a drive-in offers, you are actually creating patrons for your theatre. And once you get them coming, they'll come back again and again if the theatre is run properly. Consequently, at the beginning of the season, as much as one-third to one-half of your ad should be devoted to these points, using the re-

SAMPLE INSTITUTIONAL CUTS selling and re-selling the unusual services, policies and advantages of attendance at open-air drive-ins, is a continuing procedure. They serve as a reminder to those who have attended in the past, and interest new patrons unfamiliar with drive-ins.



mainder of the ad for your attraction. After these points have been pounded home—not once but many times—continue your institutional campaign by the use of drop-in slugs, or drop-in copy, throughout the entire season. Illustration Number One shows the use of this institutional material, and illustration Number Two is an example of the use of the drop-in slug. Don't let up on the use of this copy—this is what "sells" a drive-in theatre to the public. And the sooner you educate the public to what you have to offer, the quicker your drive-in will realize its greatest potential business.

Press Book Mats

There is a considerable difference of thought as to the use of press book mats for drive-in theatre newspaper advertising. Some—and personally I agree with this school of thought — believe that press book mats tell too much about the feature. The average drive-in theatre in the average location is playing product anywhere from 30 days to one year or more after first run, with most playing nearer to the one year than to the 30-day availability. Therefore, an ad that carries only a punch line, cast and title may attract patronage because it is not telling too much, because it is not refreshing the memory to such an extent that the picture is too familiar. A press book mat uses the very same approach that had been used in selling the picture first run and may, therefore, be too familiar to the average potential patron. Illustrations from mats are most helpful, but to drop in a mat in its entirety may tend to remind your potential patrons that the particular picture played downtown some months before at a mediocre theatre or possibly, that it played downtown to very poor reviews.

Signature Cuts

In making up your newspaper ad, a signature cut is not only a "must" but actually saves you money. First, the signature cut, used day in and day out, becomes a symbol of your theatre in the reader's eye—he can glance down through the ads and readily pick out your drive-in theatre. This signature cut should be distinctive, hand drawn and should contain your theatre's name and location. It should be made up in several sizes so that the cut fits the ad you have written. For ordinary drive-in use, you should have a one-column, a column-and-a-half and a two-column signature cut. These lend themselves to ads up to four-column size. They save you money because a good signature cut contains all the necessary information in the least possible space, so that you actually use less space in each ad in getting this information forcibly across to the public than you would in setting this same information in type. Thus, at the end of the year, the lineage saved more than pays for the cost of the cuts. Naturally, such a cut can be used for several years and the cost can be pro rated over the years it is used. Illustrated are several signature cuts that are distinctive and effective.

INSTITUTIONAL ADS, used either alone or in conjunction with a signature cut, can be spotted through the season as regular advertising to bolster the feature attraction advertising. One or more friendly competitors could collaborate and take banked credit to the advantage of all.

Layout

As to the actual layout of your newspaper ad, there are only two elements that set limitations on your layout: first, your own ability to design a good ad; second, the mechanical means available in the composing room of the newspaper in which the ad is to appear. Newspaper format is a series of horizontal and vertical lines—anything at an angle to these lines, merely because it is not following the regular pattern, stands out. Therefore, an off-angle box becomes more effective. However, can your newspaper set up an off-angle box in your ad? If it can, you can secure a striking layout at no increase in the amount of space used. The composing room foreman can not only help you in the use of space in his newspaper—the rules, borders, even cuts available to you —but also advise you as to his limitations. Unless you are an expert, leave the selection of type to him, but tell him what you want. For instance, punch lines in italics; your main selling point, either cast or title, in bold face caps. Once he knows what you want, he can assist you in obtaining it in his paper.

Press Books

In setting up your ad, use a press book. Here you have, at no cost to you, all the pertinent information relative to that particular picture, and copy written by experts that is far superior to anything that you might dream up yourself. The field of the layout of an ad is so broad that volumes could be written on it: the use of white space, the use of borders and the absence of borders, utilization of gutter space, the use of cuts, etc. However, here are a few do's and don'ts:

Don't use a stock layout day after day. It's just like looking at a picture on the wall: the first time, you look at it; the second time, your glance slides over it; the third time, your eyes instinctively tell you that you have seen it before and it doesn't register.

Don't use the same size ad day after day. Vary the size as you vary the layout.

Don't crowd too much copy into too little space. If you have something important to say, take the space to say it.

Don't sacrifice copy for a tricky layout. Layouts can become so extreme that their primary purpose can be lost.

Don't neglect current attraction for coming attractions. Remember, the average newspaper reader wants to know what is playing tonight, not next week. Your ads should "sell" in advance, but "inform" as to current information.

Don't set up an inflexible budget. Devote extra space, thus demanding attention to attractions that merit it.

Don't forget one picture is better than a thousand words. For instance, a scene mat is much more effective, by actual proof, than a stock reader lifted straight out of a press book.

And here are some do's:

Do make sure that every regular ad answers the fundamental rule of an ad: "what", "when", and "where." "What" being your attraction; "when", the play dates; "where", your theatre name and location.

Do get your copy to your papers before the actual deadline. Poor ads, as a result of a rush composing job, may be your own fault.

Do determine what you want to feature and lay out your ads accordingly. To the composing room, upper case means "punch," lower case means not so strong.

Do take care in making your layout. Print all copy; don't scribble. If feasible, proof-read all ads before they are on the press.

Do lay out your ads in advance. Go over them at least twice before submitting them to the newspaper; you'll be amazed at the number of improvements you can make in many ads.

Special Shows

There are many special activities that mean extra money that are advantageous to a drive-in operation, such as cartoon shows, ladies night, buck nights, dollar day specials, midnite shows, stage shows, holiday shows, fireworks on the Fourth of July and anniversary programs. Because they are special, because they are a divergence from your usual program, they should be handled as such in your advertising. Special layouts should be used in order to punch across to the public that you have something out of the ordinary. Illustrated are a couple of just such layouts, and you can see for yourself how impressive they are.

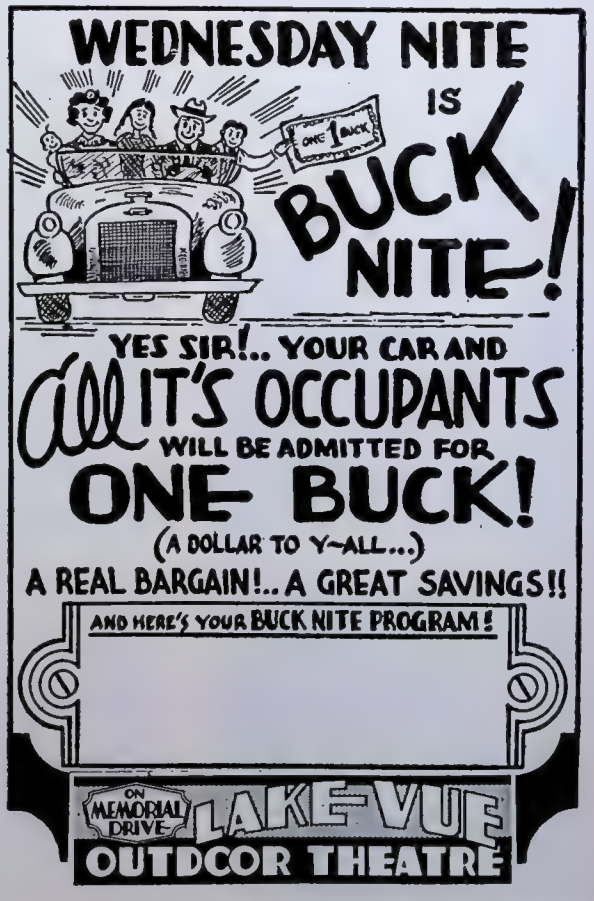
Publicity

As to newspaper publicity, don't forget that drive-ins are a definite, established part of the entertainment picture. Get your share of newspaper publicity through stories, scene mats and listings in feature timetables. Co-op ads are just as available to drive-in theatres as they are to indoor theatres, so go out and sell them. The publicity you obtain will keep the drive-in before your public.

Summary

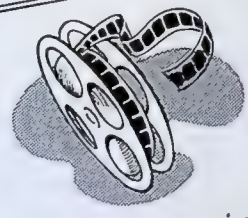
To sum it all up, what you get from your newspaper advertising is up to you. As proved by surveys conducted by the American Newspaper Association, a well designed ad is read by more people than a poor ad, yet you pay just as much for an inadequate ad as you do for a productive one. To get the most out of your newspaper advertising, analyze your drawing territory and your newspaper coverage in this territory, then sell the public on your drive-in theatre and the advantages it has to offer. And spend a proportionate amount of time on your ads depending upon each ad's value to you. In so doing, you will get your money's worth out of your newspaper advertising — and, more important, you will bring more business to your theatre.

SPECIAL EVENT ADS should be bold and dramatic. Layouts and a change of style from normal advertising is necessary to designate something special.



3 DOORS to PROFITS!

FEATURE TRAILERS

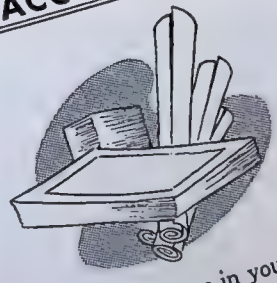


...captivating, interest-stimulating *screen salesmen* that *sample* the scenes of *coming* pictures and *build-up mass* enthusiasm among your patrons.

SPECIAL TRAILERS

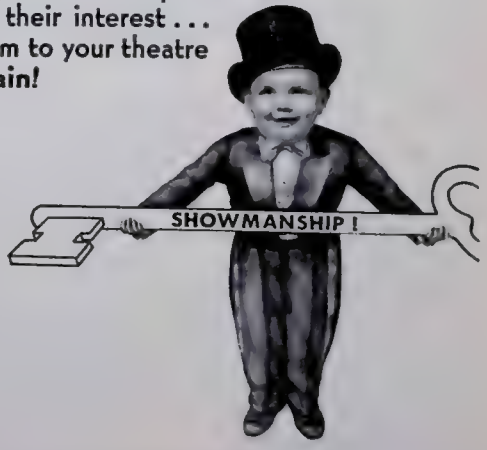
...shout about your services, policy and special events... sell your refreshments and do every special selling job your theatre requires.

ACCESSORIES



...stop customers in your lobby, out in front, away-from-theatre and all over town with striking design and eye-catching color.

SHOWMANSHIP... the Key that opens **all 3** DOORS TO PROFITS... is **designed** and **delivered** to you by the Prize Baby to help you **win** new patrons... **build** their interest... and return them to your theatre **again** and **again!**



NATIONAL Screen SERVICE
PRIZE BABY OF THE INDUSTRY

THEATRE FORMS AND SYSTEMS

PLUS SERVICE No. 1

THE SERVICE-KIT
—a streamlined system for BUYING, BOOKING and CONTRACT CONTROL

● Arranged and assembled for insertion in any standard 9 x 12 inch ring binder or ring-equipped brief case are the following forms:

1. A 52 week supply of large, modern BOOKING SHEETS (9 x 12 inches)
2. 10 pages of AVAILABILITY and PLAY-OFF WORK SHEETS (9 x 12 inches)
3. 12 sheets of CONTRACT CONTROL ("Cut-Off") RECORD SHEETS (9 x 12 inches)
4. A permanent EQUIPMENT RECORD
5. An 18-month BOOKING CALENDAR
6. A special PERPETUAL CLEARANCE CHART and many other helpful forms all properly indexed.

● After the first year, additional pages of any particular FORM can be purchased separately for 1c per sheet; any back REVIEW SECTION for 2c; and any DIVIDER INDEX for 15c.

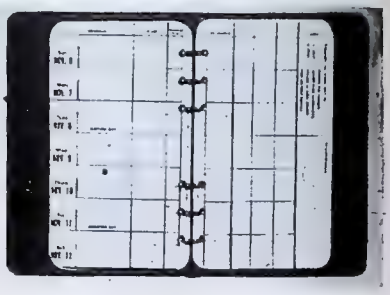
STIFF-BACKED 3-RING BINDERS ARE AVAILABLE . . . See No. 12

Price: $1.00 per set

PLUS SERVICE No. 4

THE NEW *"Pocket-Size"* DATE BOOK
—latest innovation in the field of small booking records.

● This new design has proved so far superior to anything previously developed in its field that it has taken the industry—whether independent owner or circuit manager—by storm. (a) 5 lines of booking space were gained by taking full advantage of the 3¾x6¾ inch page area. (b) Weekly activities not bothered with until the complete week is booked, are kept separate and distinct. (c) Spaces are allowed for cost, gross, weather, etc., as desired. (d) All dates, days of the week, and holidays are clearly printed.



Dated forms for ONE FULL YEAR are printed to start with each JULY 1st.

SOFT-BACKED 6-RING LEATHERETTE BINDERS ARE AVAILABLE . . . See No. 12.

Price: 60c per yearly set

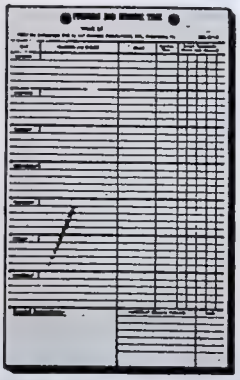
PLUS SERVICE No. 2

PROGRAM and RUNNING-TIME Schedules
—a basic weekly form to replace the scribbled note or tissue carbon.

● These forms are prepared for convenience in disseminating accurate information to the key members of a theatre staff so that they may answer intelligently the patron questions most frequently asked; or so that they can cue and time their show. 50 sheets to each pad.

● Daily turnover running time can be easily computed from the running times of the individual subjects that make up the bill.

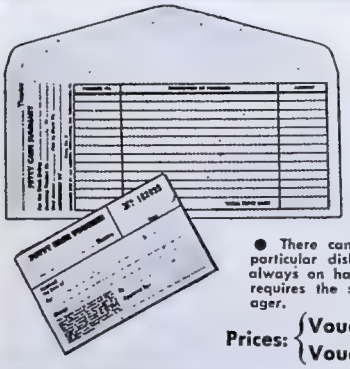
● One copy each week: (1) on your desk, (2) to your cashier, (3) to your doorman, (4) to your projectionist, and (5) to your head usher or floor supervisor will be sufficient to keep uniform information throughout the theatre.



Price: 25c per pad

PLUS SERVICE No. 5

Weekly PETTY CASH SYSTEM
—designed for simplicity and quick theatre reference.



● These specially designed 3 x 5 inch Petty Cash Slips require a counter signature of approval and are numbered consecutively so that accurate records can be kept of each individual expenditure. There are 100 slips to each pad.

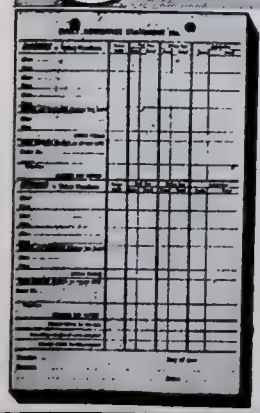
● The specially designed envelopes are for use only once each week in listing each individual slip and computing the weekly total expended. All slips listed on a particular envelope should then be inserted in it for safekeeping; and the envelope filed for future reference.

● There can never be any later question of a particular disbursement, for the actual receipt is always on hand and easily located. Each voucher requires the signature of the owner or the manager.

Prices: Voucher Pads .. 25c each; Voucher Envelopes—50 for 60c

PLUS SERVICE No. 3

Daily BOXOFFICE STATEMENTS
—all embracing memoranda of the complete cash control system.



● Printed on both sides so that complete factual totals for one day can be kept on one 8½ x 5½ inch sheet, each itemizes:

1. OPENING AND CLOSING TICKET NUMBERS
2. PASS AND WALK-IN TICKET NUMBERS
3. CASH TOTALS AND REFUNDS
4. TAX TOTALS
5. PROGRAM, WEATHER, AND OPPOSITION
6. SPACES FOR HOURLY TOTALS
7. MISCELLANEOUS INCOME AND DEPOSITS

● Made up in pads of 50 per pad, each sheet is punched for saving in a standard ring binder with the date at the lower right corner for quick reference when filed.

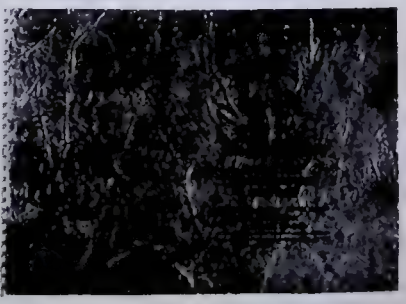
● Where accuracy counts for current income and future bookkeeping, the Box Office Statement is a diary of theatre operation.

Price: 25c per pad

PLUS SERVICE No. 6

THE *"At-a-Glance"* BOOKKEEPING BOOK
—specially designed by a leading theatre specializing C.P.A. authority.

● This extremely simple system has been constantly revised to meet each tax or other changing requirement of the theatre man. Its 9 x 12 inch pages provide for: (1) daily ticket record, (2) tax collected daily, (3) daily gross, (4) pass and walk-in records, (5) weather and opposition, (6) daily show cost, (7) weekly income from vending machines, etc., (8) weekly gross, (9) weekly fixed expenses, payroll, and annual of monthly expense amortized weekly, (10) weekly profit or loss statement, (11) profit or loss for the year to date, etc.



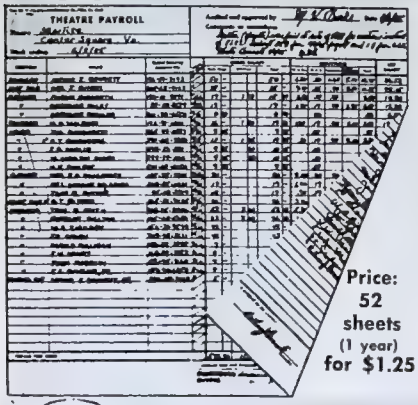
Price: $1.60 per book (Sufficient for 52 weeks)

JAY EMANUEL PUBLICATIONS, INC., 246-248 North Clarion Street, Philadelphia 7, Penna.

PLUS SERVICE No. 7

Weekly PAYROLL FORMS

—for use whenever employees are paid in cash for salary or overtime.



Price: 52 sheets (1 year) for $1.25

● This is the system that resulted from a contrast of the Payroll Forms used by all major theatre circuits.

● Designed to be filed in the ordinary letterhead size cabinet (8½ x 11 inches) this form provides a permanent weekly record of the individual name, social security number, rate of pay, overtime pay, reasons for overtime, and deductions for all purposes. It also provides gross weekly totals of salaries, deductions, raises, etc.

One of the most important features is an individual signed receipt by each employee, without their being able to see what any other employee has earned.

PLUS SERVICE No. 8

SERVICE MANUALS

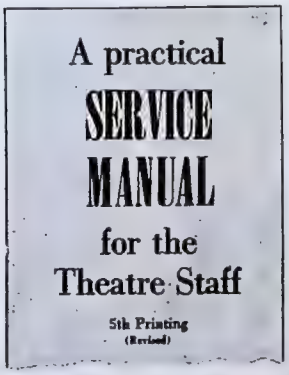
—for the quick and proper training of new and old Theatre Employees.

● Of inestimable value in "breaking-in" a new staff of Ushers; a new Cashier, or a new Door Man.

● This 16 page pocket size (3 x 6 inch) booklet with heavy paper cover itemizes the rules of conduct for the theatre staff very logically and thoroughly. Separate chapters are devoted to Managers, Cashiers, Door Men, Ushers, etc., as currently trained in the larger circuits.

● It also pictures a system of Usher's hand signals for designating empty seats and gives many hints on Public Safety, Accident, Fire Prevention, Advertising, etc.

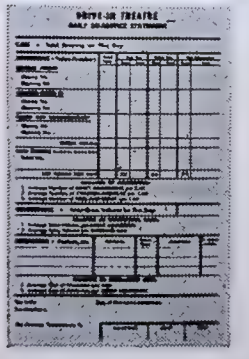
Price: 5c each



PLUS SERVICE No. 9

Drive-In Theatre Boxoffice Statements

—specially designed exclusively for the use of Outdoor Theatremen.



● A daily record of: (1) Number of Cars; (2) Number of Adults; (3) Number of Children; (4) Passes and Complimentary Admissions; (5) Cash Refunds; (6) Confection Gross; (7) Title, distributor, rental basis, actual cost, and percentage of admissions income of the Show; (8) Record of the weather and average temperature; (9) Hourly Ticket Sale Record; (10) Opposition Attractions; (11) Checker and Hours Checked; (12) Total Cash Receipts and Totals Deposited.

● All on a handy 5½ x 9 inch sheet punched for filing in a post or ring binder and padded 50 to the pad.

● Here is a professional form never before designed for drive-in operation.

Price: 25c per pad

PLUS SERVICE No.10

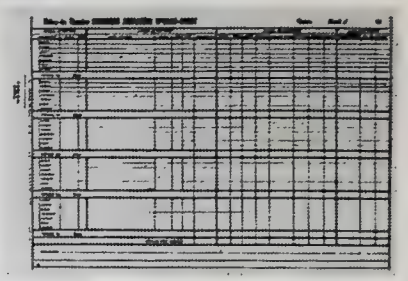
Monthly *Drive-In Theatre* Bus. Analysis

—a contrast study of ALL Outdoor Theatre income and film costs.

● There is no facet of the theatre field that fluctuates so rapidly with every turn in weather, temperature, school attendance and opposition as the drive-in. A properly kept line each day on your Business Analysis Spread-Sheet will provide a study of: (1) The day of the week and day of the month complete with all weather influences; (2) The feature attraction complete with costs; (3) The total admissions by car and by patron; and (4) The confection sales by car and by patron.

● At the end of any one month, the complete picture is there for analysis and study,—and at the end of the same month of the following year, your headway or shortcomings are obvious.

● Here is what might be termed "a Monthly Boxoffice Statement."

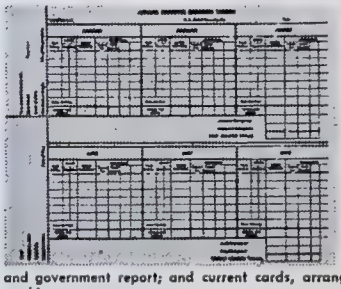


Price: 50c for 13 sheets

PLUS SERVICE No.11

Annual EMPLOYEE EARNINGS RECORD

—complete with all Withholdings and Deductions for Tax Returns.



● Uncle Sam requires that you keep careful, permanent records of all employee earnings and of all tax or other deductions, under penalty of fine or imprisonment. Here is the most simple theatre method. With ushers and other low-paid help, turnover is frequent so a salary book is inconvenient and bulky. Under this EXHIBITOR system, one 8½ x 11 inch index card suffices for any one employee for one year, and each year is an entity in itself. The card of a fired or quit employee is set aside for tax return and government report; and current cards, arranged alphabetically constitute the only working set.

● Here is a time-saving, accurate system you'll rave about!

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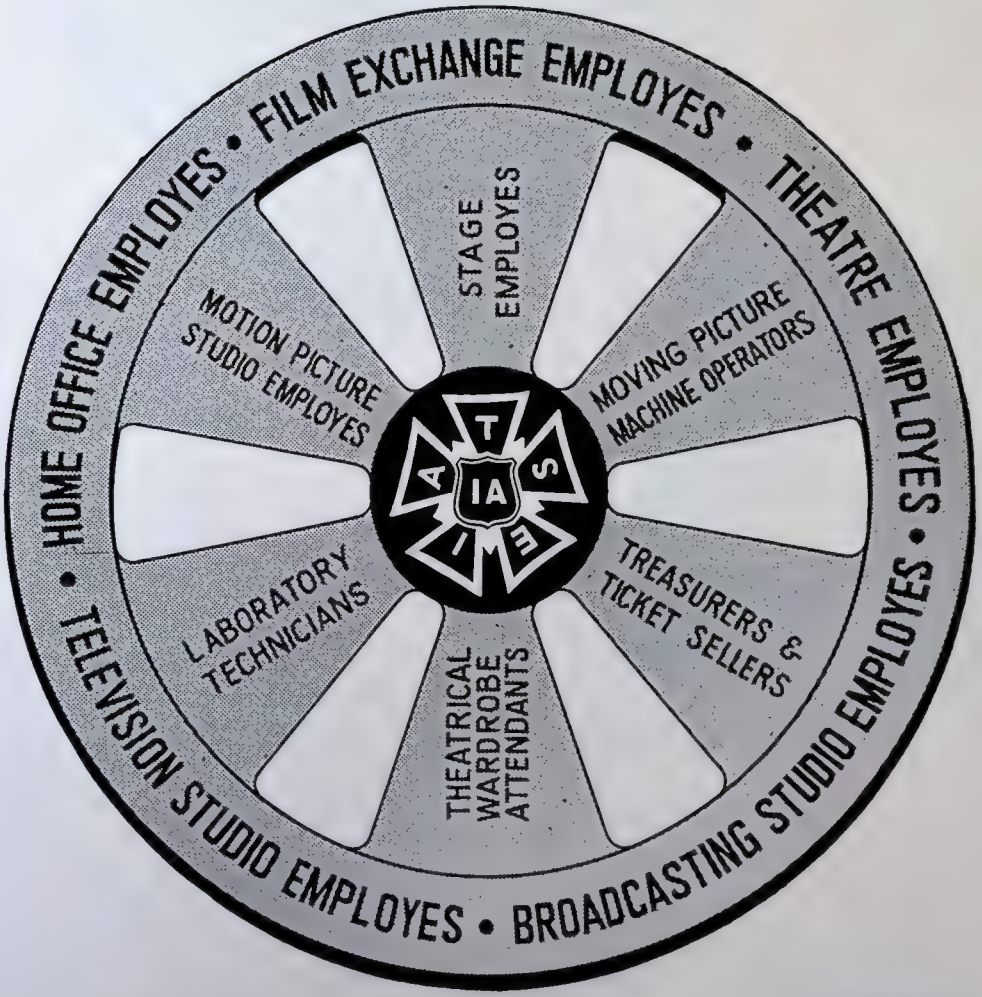

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The Second Boxoffice

A Comprehensive Study of All Phases of the Concession Business As It Applies to Indoor and Outdoor Theatres

A brief 15 years ago, the concessions side of the American theatre business was represented to all intents and purposes by a few grubby popcorn machines hidden apologetically in dark corners of the lobby and by stop-and-go coin machines dispensing cigarettes and candy. Today, that step-child of the theatre industry is a booming, bustling business that turned a half-billion dollars gross profit into the pockets of house owners in 1952.

To change the metaphor briefly; what began as a penny-ante popcorn game before World War II has become, almost overnight, a highstakes contest for customer patronage and the customer's dollar. The stakes are high, but the jackpot awaiting the winners is well worth the battle.

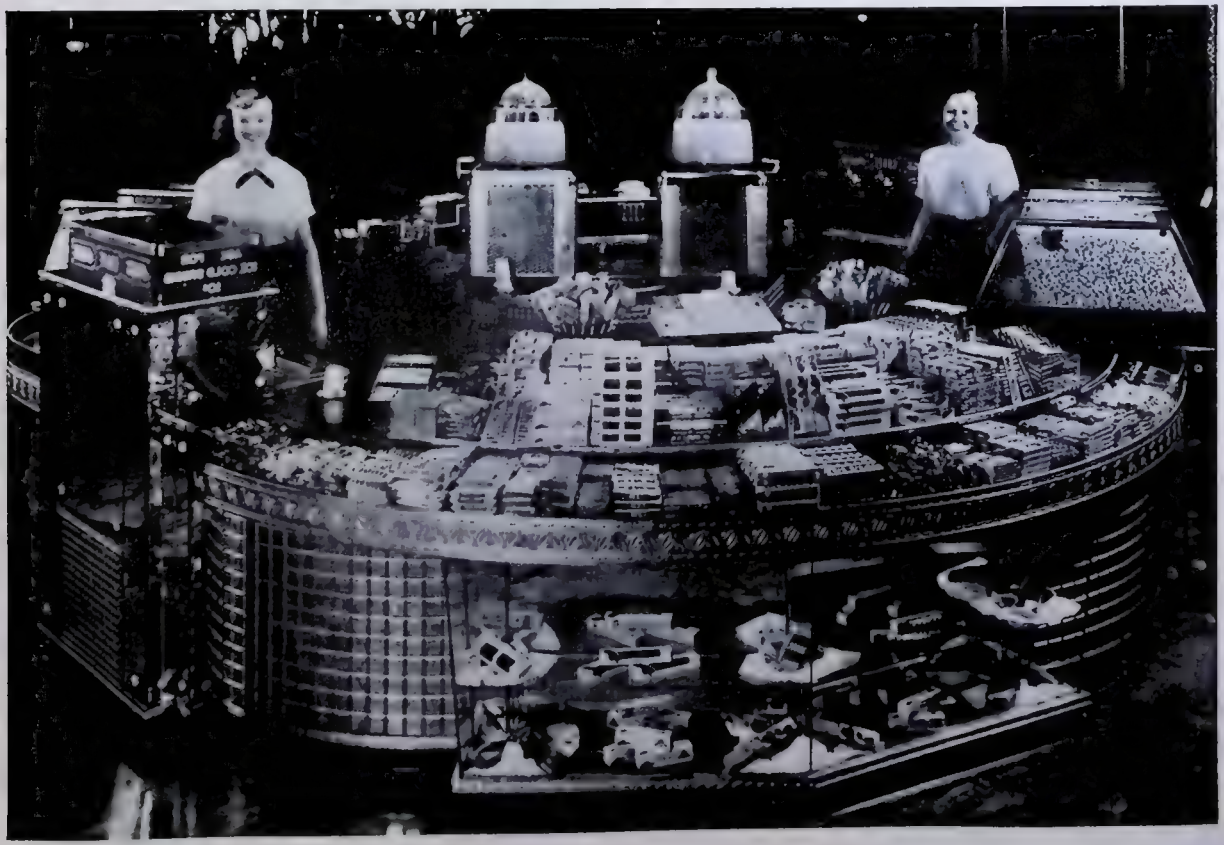
Actually, it was public demand which forced the hand of the reluctant exhibitor, and set him up in the refreshment business. And it is public acceptance, reflected in climbing sales, that makes the concession stand the valuable asset it has become in the modern theatre. Today, in the face of TV and other inroads on movie audiences, of more and better competing attractions than ever before, and of less available amusement dollars, the snack stand has done more than its bit to keep the alert exhibitor operating within the profit side of his ledger.

According to comprehensive surveys recently completed on an industry-wide basis, 61 of every 100 theatre customers make purchases at the concession stand. This is in the conventional operation, the indoor house. In the fabulous drive-in business, 67 of every 100 ticket-buyers become paying customers of the snack stand. No wonder the business is booming.

For every dollar taken in at the ticket window, the refreshment counter pulls in an additional 26 cents indoors, a whopping 45 cents at the drive-in. Put another way: concessions account for nine cents per customer at the conventional house, almost 16 cents per patron outside!

Once lured into the lucrative operation of a refreshment service, the American theatre owner has been quick to recognize the potential involved, and to

BRIEF: ***It is no longer necessary to convince theatremen of the importance of concessions . . . However . . . realizing the importance of something and knowing how to get the most out of it . . . are two different things . . . As with most phases of the complex operation of a modern theatre . . . The concession stand . . . in order to give maximum results . . . must be properly run . . . As part of its continuing effort to supply its readers with information . . . the Editors of THEATRE CATALOG offer this thorough and complete study of concession stand operation . . . touching upon all the ingredients that go into creating a concession that pays off in extra profits . . . and satisfied customers . . . Conventional and outdoor theatres are given individual treatment.***



THE CONCESSION business in theatres has grown in fifteen years from a penny-ante popcorn game to an enterprise grossing a half billion dollars in 1952. Many larger houses feature elaborate, center-lobby stands like this with duplicate services.

capitalize on that potential. At the present time, 75 per cent of the conventional houses in this country feature clean, modern attractive operations handling a wide variety of consumer items. A total of 95 per cent operate *some* kind of concession stand, with only five per cent of the houses continuing their holdout.

In addition to regular refreshment stands, 18 per cent of the houses also boast supplemental equipment: coin-operated machines for vending beverages, candy and cigarettes. These machines are strategically placed to add important additional income.

The road to these extra profits — these extra customer dollars — has not always been easy. Modern theatre architects incorporate room for refreshment service in their basic planning, in many cases building the lobby design around a handsome stand and its necessary storage space. This is the easy way. Where the theatre is already designed and constructed without allowance for a snack stand, the job is more difficult. Even so, the impressive percentage of owners and operators who have rebuilt and remodeled to make way for the concession business indicates the importance they attach to it. Even at the considerable cost of redoing the lobby, an attractive refreshment stand is apparently well worth the trouble and investment.

In realizing the vital importance of the concession business to his overall profit picture, there is a danger that the house owner may lean too far, become too absorbed in promoting snack sales at the expense of doing a good job with his program. After all, the theatre industry is still basically a *theatre* industry. It should not become a business of sandwich stands and beverage booths. The concession business is an important supplemental part — but still *only a part* — of the operation of a modern theatre.

Properly regarded as a service to his patrons and a source of profit to his business, the refreshment stand has a major role to play in the thinking and planning of the house operator.

The purpose of this article is to help you in that thinking and planning. We will offer some ideas and some suggestions, some proofs and some projects, some theories and some techniques that may find a place in your operation. These ideas and suggestions are not the thoughts of any one man in the theatre business. Rather, they represent the distilled experience gained in profitable house management from New England to California, from the midwest to the deep south. They are authoritative only in that they have all been tried *somewhere*, and they have all *worked* somewhere.

For the purpose of simplification, we have arbitrarily set up certain headings. The entire first section of this article is devoted to the conventional theatre, and we have attempted to give a picture of the problems (and their solutions where possible) involved in placement of the snack stand, merchandising of the stand, personnel, stock, equipment, storage, cleaning, and management. The same general headings serve for the second half of the piece, which is concerned with the drive-in.

REFRESHMENT stands should blend with theatre decor, wherever possible, and usually this is the case. Note facing on open-top candy counters. U-shaped stand offers double facilities, easy access.

One word of caution is necessary. Figures quoted as results of industry surveys are authoritative within limits. They should be followed as general guides, not as specific facts. We have gratefully accepted access to surveys undertaken by people vitally interested in the concessions business. Since the surveys were done *by* different people, *with* different people, and with different motives, their composite answers are valuable as trend-indicators. They should not be taken, as quoted in this article, as hard-rock fact.

PERFECT placement of the concession stand-facing the customer as he comes past the ticket-taker into the lobby. Stand should also be close to rest rooms, stairs to balcony, for best results.

THE CONVENTIONAL THEATRE

The Stand Itself: Design

In planning construction of a concession stand, or the addition of one in a theatre already operating, first regard should be given to the relationship of the stand to the rest of the theatre, both as to design and decor and as to placement.

The attractive refreshment stand is an integral part of the lobby it graces. Most authorities agree that it should blend with the coloring, the styling, and the architecture of the building. If the house is elaborate and traditional, as many downtown, first-run houses are, the snack bar should reflect the same kind of styling. On the other hand, more modern decor calls for a streamlined

WHERE HEAD-ON POSITIONS is not possible, concession stand running length-wise in long lobby can do a job. Staggering counter area provides maximum display, makes for tempting appearance.

candy counter, svelte of line, and functional in design. In the friendly, homey atmosphere of the neighborhood or small town theatre, the more casual construction — the simpler line — is desirable.

The wide choices of materials available to the modern builder make achievement of this ideal a simple matter if proper thought and planning are given to it. For best possible effect, however, the designing of the concession stand should be undertaken by a professional in the business, either an architect or an interior designer, or both.

Placement

In planning the placement of his stand, the theatre owner has many factors to take into consideration. First of these is traffic. The ideal position from this viewpoint is headon in the lobby, where the stand will be seen by patrons immediately after they have passed the ticket-taker.

There is a definite psychological reason for this. Until patrons have surrendered their tickets at the door, their minds are occupied primarily with thoughts of getting inside. They do not want to be, and actually may *not* be, distracted by secondary purchases. Once past the ticket-taker, however, the patron is fair game for attractively displayed refreshment. He has just opened his pocketbook to buy his ticket, and is in a spending mood. He has not as yet turned his attention to the business of getting a seat. If he is immediately attracted by the sights, sounds, and aromas of a snack stand, chances are good that he will buy something.

On the basis of past experience, he is most likely to buy popcorn and candy at this particular point. He will return to the booth during the show, or between shows, for cold beverages, ice-cream items and other merchandise. For that reason, the stand should be placed adjacent to, but just *off*, the main traffic lane into the theatre. It is unwise to arrange things so that concessions customers jam the entrance channels or so that people with money to spend are hurried in their selection by pressing crowds behind.

IN OLDER THEATRES, placement of concession stand is sometimes a problem. Many houses have had to close in side of narrow lobby. Profit picture indicates stand is well worth this expense.

It is even more unwise, of course, to clutter exit lanes. For this reason, the most desirable position is in the broadest lobby location where all traffic has freedom of movement.

It is also good merchandising, where possible, to have the stand located where patrons headed for the balcony stairs or the rest rooms must pass it.

One additional factor arguing for the headon lobby position between the ticket-taker and the auditorium, the factor of control. If a seated patron must pass through the ticket-taker to reach the refreshment stand, control is necessary in the form of handout checks or some other device. In addition to creating a problem for management, this passout system creates a mental and psychological block in the minds of many patrons, who will do without the refreshment they desire rather than approach the ticket-taker for permission to leave the house and return.

Obviously, it is not always possible to find such ideal locations in theatres that are already in operation. As mentioned earlier, remodeling may be necessary in many cases to take full advantage of the profit opportunities of this "second boxoffice inside your theatre." Where that is the case, many operators have knocked out two or three rows of seats in the back of the auditorium to accommodate a lobby-facing snack bar. As one exhibitor put it, "a few seats more or less are not a major concern of the house owner these days. The extra profits possible from a well-placed refreshment stand *are*."

Even in the most crowded houses, it is usually possible to find room for an adequate concession stand. A vacant corner may be converted to use, an off-lobby room may be opened up, or a deadend may be faced-in. Highly successful stands have been built with long counters along the length of narrow lobbies — as complete islands in the middle of the more spacious lobby. Space and location are not obstacles where ingenuity and forethought are used.

One circuit in the New England states experimented with placing the snack stand inside the auditorium itself, walling it off with glass so that its light and sound do not disturb people watching the movie. Although it reports success with the scheme, it is not given much acceptability by veteran operators for one principal reason — refreshment buying is *impulse* buying. Place a stand at the patron's back, where he can't see it, and the impulse to buy is to a large extent removed, they say.

Wherever the refreshment stand is placed, extreme care should always be taken that it does not disturb the seated customers. Violation of this sound rule of good management is frequent, and never fails to cause resentment on the part of the customers who hear more sound from the refreshment stand than from the speaker system. In many cases, the use of sound-proofed walls for the concession stand will eliminate this problem.

Elements

The standard refreshment unit in the modern theatre has several component parts, all of which must be allowed for

in planning the unit. First, of course, are the display counters which will hold candy, nuts and other packaged products. There are differences of opinion as to whether these counters should be open-faced, to allow customers to handle the candy, or glass-topped. Consensus of the majority is for the open-face idea. There may be small losses from pilferage, but this is more than offset by the increase in sales. People like to pick and choose their purchases, and many a customer will stand in line to pay for a candy bar in his hand when he will not wait to be served by a busy attendant.

The popcorn machine deserves a prominent place, since popcorn accounts for roughly 50 per cent of the concession dollar across the country. Experience proves that the upright popcorn machine does a better job. It takes up less valuable display space, and it acts as good advertisement for the stand, being seen from any position in the lobby.

Other equipment will be determined by the items carried. Dispensers for Coca-Cola and other beverages are becoming increasingly popular. And the individual operation may well use nut warmers, steam tables for hotdogs, and other specialized equipment. Few of the conventional houses have full soda fountains, but even they are found in situations where traffic and demand warrant.

The basic part of the refreshment booth, then, is the candy counter, with popcorn machine, beverage dispensing units, and other equipment either built in or fitted in. The counters themselves, in addition to providing attractive display for candy, should provide adequate storage space underneath for a peak day's supply of boxed candy, popping materials, etc.

It is a good idea, where possible, to have low counters for the children, who are among the top customers of a snack stand.

The backbar, the area behind the counter, is an important part of the modern stand. It can be used to display additional merchandise, to advertise and promote special items, or purely as decoration. In general, it has been found by some managers that mirrored backbars are not desirable because they cause the customer to linger longer, preening, or (children especially) making faces. Decoration of the backbar area should blend with decoration of the stand generally and with the decoration of the entire lobby.

Supplementary Equipment

In addition to the stand itself, supplemental equipment placed throughout the theatre is considered part of the concession service. Many houses have found that multiple-beverage, coin-operated dispensers do good business almost anywhere one puts them. Adjacent to the stand itself, they catch the main stream of traffic, yet cut down on the rush at the counter. In the outer lobby, they stop patrons leaving the theatre. This is particularly important after the snack stand has closed for the evening. On balcony or mezzaine, they pick up additional business from customers who don't want to walk all the way to the lobby.

MULTIPLE-DRINK beverage dispensers, coin-operated, are valuable additions to refreshment service. Placed out of stand traffic, they make service faster, less crowded. Other popular spots for such machines are mezzanine locations.

Although coin-operated beverage machines are highly productive, some advise the smaller house to steer away from other supplementary equipment because of negligible profit. In general, cigarette machines in or adjacent to the rest rooms are valuable and return a profit, especilly in those houses where smoking is allowed in the balcony.

Operators of larger houses have found that ice cream and candy machines placed on mezzanine and in outer lobby locations return considerable revenue, most of which is plus business.

Other experts, however, believe that too much supplementary vending equipment takes business away from the concession stand.

MERCHANDISING THE STAND

Need for Merchandising

Advertising has been defined as pulling the customer toward the product. Merchandising is the business of pushing the product toward the customer.

For obvious reasons, the operator of a conventional theatre usually does not advertise his concession stand outside the theatre itself, although highly effective jobs have been done in many instances with ticketing campaigns. These involve the distribution throughout a community of tickets inviting a customer, for example, to "Have a Coke . . . Free . . . from our dispenser next time you visit Such-and-Such Theatre."

The purchase at a snack bar is what a psychologist would call an "impulse" purchase. The customer sees or hears or smells something good, gets an impulse to buy it, and does so.

For this reason, active efforts should be made to merchandise the concession stand if it is to do the best possible job. More than 65 per cent of house owners across the country undertake active merchandising of one sort or another in connection with their concession operations.

Merchandising in this sense is a subtle thing, since the stand itself is a *secondary* item to the average patron. As Shakespeare said in another connection, "The play's the thing." The customer comes to see a show, and is only interested incidentally in buying anything else.

The Stand Sells Itself

What can be done to get his interest, and to convert it into sales? The physical appearance of the stand itself is the first thing seen by the potential customer. The cleanliness and neatness of the counters, the design, styling, color, decoration of the booth itself, the counter-facing, and the back-bar display — all these have the power to attract or to repel. If the job of designing has been well done, the stand will be a testimonial to the desirability of the items for sale there.

Lighting

Lighting is an important aspect of good merchandising. Although here again situations will vary, the use of grid diffusers under cold cathode tubing has proved so generally agreeable that it is worth suggesting to newcomers. This system provides a steady, even light over the entire stand, and has an attractive modern look that helps the overall effect. Where possible, supplemental spotlights on special displays have often proved profitable, although they must be handled with care to prevent harmful heating of candy and other merchandise.

Counters should be designed to show off merchandise in the best possible man-

ner. Staggered shelving offers a much better chance for effective display than cases with shelves of even depth. Similarly, three-shelf cases seem to do a better job of merchandising than those with two shelves. Whether candy cases are open or closed, they should be so arranged that the product itself is easily visible. In some instances, where closed-top cases are used, samples of all candy brands are kept in arrangements on the counter. It is not wise to arrange bars in geometric designs, however, since a potential customer may buy something else, or not at all, rather than break up the design. In open-style cabinets, the effect of mass display of attractively-wrapped candy bars helps to create sales.

Seasonal Decoration

No matter how attractive the basic stand may be throughout the year, it can be provided with new interest and excitement with seasonal decorations and changes of trim to coincide with picture themes. Enterprising exhibitors have increased sales measurably by special decorations for Easter, Valentine's Day, Thanksgiving, and the like. In addition, certain film titles offer easy opportunities to capitalize on public interest. Rigging the refreshment stand to look like a pirate ship during the showing of "Treasure Island", or like a circus tent while "The Greatest Show on Earth" plays the house, may seem like useless trouble and expense, but the interest and eye-appeal the change may have for complacent patrons will make the effort worthwhile. No matter how devoted customers may become to an attractive concession stand, an occasional gimmick to rekindle their interest pays off in dollars and cents. After all, the patrons expect the show to be changed each time they attend. Why not an occasional "change" at the snack stand, too?

Along this line, some exhibitors have had success recently with tiein merchandise other than food items keyed to the themes of certain pictures. Dolls, toys, special-wrap candies, etc., are available from most specialty houses and distributors, and may substantially increase profits if properly stocked and displayed. Best bet for this type of extra merchandising effort is the large downtown first-run house, where children are accompanied by parents. Experience indicates that this type sale should be made at a secondary stand, away from the snack bar, to avoid congesting the high-traffic stand area. And, of course, it is wise not to overstock when taking on merchandise of this type.

Advertising Material

A proper wedding of advertising and merchandising activity takes place at the counter and back-bar, where easel cards, motion displays, neon signs, and other advertising matter can effectively call attention to featured items. Widespread use has been made in many sections of shadow-box displays in the facing of the counters, using the countertops for candy and the inside shelves for storage.

In arranging for advertising display material and its placement, it is always wise to strike for the total effect. Displays should be kept simple, massive, and uncluttered. Good merchandise sells itself when properly shown. Brands that are nationally advertised, and nationally known, are pretty well presold to the customers. One can increase sales volume, turn over stock faster, and wind up with more dollar profits by sticking to popular items than by risking inventory capital on large-profit merchandise which is, nevertheless, unknown.

AN EXAMPLE of smart merchandising. Notice use of counter-facing, counter-top, and backing displays. Ceiling spots high-light important areas.

During the Breaks

Scheduling of the breaks between shows can be effective in merchandising the concession stand. Some 70 per cent of house operators make periodic use of film trailers between shows to invite the customer's attention to the snack bar, and these prove highly effective where used in variety and not overworked. Film trailers are available from several standard film companies, such as National Screen Service and Filmack and in some instances from product suppliers like Armour and The Coca-Cola Company.

The scheduling of the break itself can be an important item. When the crowd is unusually large, an extension of one or two minutes will enable more patrons to be served. A small house, on the other hand, calls for shortening of the break period so as not to bore seated patrons. The screen should never be left entirely blank, no matter how long the break. An "intermission clock" on film is a good device, or colored spotlights on the stage can be used to add life and interest.

A break that is *too* long, no matter what the reason, will antagonize customers, and keep their valuable ticket dollars out of the till.

PERSONNEL

Requirements

The people employed to serve the public through the concession stand have extremely important jobs. Since they deal directly with an exhibitor's prize possession, his patrons, they act in his interest whenever they are on duty. They are *service* people, people who serve a critical and responsive audience.

Certain basic requirements are elementary. Attendants must, first of all, be immaculately clean, both in person and in uniform. Hair, face, nails, and especially hands should be constantly checked and scrupulously cleaned. An attendant with good habits of personal hygiene will keep a clean stand, and cleanliness and neatness are of prime importance in handling food items.

Uniforms are the responsibility of the house owner. They should be neat, well-fitting, attractive. Enough should be available so that a clean change is possible when necessary. Laundering should be often, and regular. Caps are advisable for attendants, male or female. Where caps are not possible, hair nets for girl attendants should be required.

Interest in the job is another important characteristic, because interest, or the lack of it, will be reflected in the way a job is done. A pleasant personality is a requisite, as is the ability to smile. Alertness is a plus factor in selling. Courtesy is a must. And honesty, of course, is essential, since stand attendants handle both money and its equivalent, stock.

When serving a customer, the ideal salesman opens with a smile and a friendly greeting. A suggestion of service comes next: "A big bag of hot popcorn?" "Would you like ice-cold Coca-Cola?", but not the negative "May I serve you?"

THE IDEAL attendant is the most important asset a concession stand can have. Here's one . . . pleasant, alert, friendly, clean and eager to serve.

If a customer is undecided, an alert attendant is quick with a pleasant suggestion. She takes and fills orders promptly, and thanks the customer for his business. She makes change accurately, counting it out to eliminate mistakes. If there is any complaint, she hears it patiently, with understanding. She rights any wrongs within her authority, calls the manager, and explains any other. When repeating a customer complaint to the manager, she gives the customer the benefit of any doubts, realizing that losing a customer is a stiff price to pay for winning an argument.

These are basic requirements. They form the foundation of good selling, of good public relations at the concession counter. There are other things that can be done by stand attendants to boost sales and to win friends for the theatre.

First, of course, is salesmanship. A good sales person knows her stock, by experience. She is prepared to use inviting, descriptive language to dress up a suggestion. "Hot popcorn" sells better than "popcorn," for example. "Ice-cold Coca-Cola" is much more appealing than "Coca-Cola."

If a customer asks for an item that is not in stock, the smart attendant steers the sale to another item rather than lose it entirely. With the interest of the owner in mind, the alert attendant can "trade-up" her merchandise by pushing items with top profit and by suggesting additional purchases. She can also help with the problem of what to stock by reporting to the management repeat request for items not carried.

Staff Meetings

It is never wise to assume that an attendant will know all that is required of her just because she has worked in some other house. It is a certainty that new personnel will need training and guidance. That is the responsibility of the stand manager, and should be undertaken with courtesy and understanding. A person well trained in the policies and practices of successful operation is a plus value on the profit side of the concession book.

Along that line, an occasional meeting of all refreshment stand personnel is invaluable in upping the quality of service. At such a get-together, standards can be discussed, opinions expressed, and complaints aired. Demonstrations of technique will be important to new members of the staff and as refreshers to the veterans. Explanation of how to handle and care for stand equipment will pay big dividends. In general, employee morale will improve when each member of the team feels that he is part of an overall plan, and that the plan has purpose and meaning.

Sources of Personnel

Now for the big question. Where does this ideal attendant come from? There are three sources from which most house operators draw their concessions people: young girls, older women, and high school boys. There are advantages, and attendant disadvantages, in each type.

The young girl, particularly when she has poise and attractive good-looks, is a definite advantage to any selling operation. If she combines charm and a pleasant personality with her comeliness, she makes an ideal attendant. She can do a good job of selling, and can usually be hired for a reasonable salary. Unfortunately, she is not usually as interested in the job as she might be, and marriage plans or a family can easily upset her attention to duty.

Smart, alert high school boys are good attendants, particularly when picked with a purpose. House managers who approach the problem with the help and advice of school authorities, picking their boys from among the smart students with need or desire for income, usually do well. Boys have easy aptitude with the concession equipment, are quick and accurate with stock, and, if properly selected, have believable sales personalities. On the debit side, they are frequently more playful than attentive to duty, sometimes unsympathetic to younger customers, or sometimes disrespectful to older patrons. A smart boy's devotion to the life of a snack bar attendant is likely to be short-lived, and turnover is rapid in such cases.

Perhaps the most ideal solution to the personnel problem at the theatre concession stand is the older, settled woman. If she has a matronly charm, a warm and pleasant personality, and a comfortable smile, she is likely to fill the bill perfectly. She will, in most cases, take her job seriously, and give every effort to doing it well. She will not be subject to the whim and lures that pull younger people away from steady employment. She will be conscientious, will feel at home with people of all ages, and is likely to be a happy, helpful employee for a far longer period of time than anyone else available.

Pay practices will vary, of course, from situation to situation. In general, a base hourly wage is considered the best starting point, with the possibility of weekly bonuses as a valued incentive to better work. Although some managers base such a bonus on gross sales, others prefer a "cents per person" base, since gross sales are affected by other factors than stand personnel. An increase in admissions, for example, will usually cause an increase in gross at the candy stand, and some operators feel that the sales person does not deserve a bonus on this kind of increase.

In circuit operations, sales contests between concession departments of different houses have proved effective. Where these are used successfully, it is necessary to have several prizes worth working for, to issue frequent reports of progress, and to make certain that most employees have a chance of winning something. Otherwise, interest in the contest will be rapidly lost.

Good employer-employee policy in the concession business follows the same pattern found in any successful operation.

SUPPLY OF clean, fresh, attractive uniforms is the responsibility of the stand owner. Uniforms should go to laundry on regular schedules.

TRAINING of new personnel is important job of stand manager. In addition, frequent staff meetings to hear problems, explain policies and procedures pay off in increased performance and morale.

Job requirements should be explained in detail and in advance. Such items as time off, rest periods, cleaning schedules, extra work periods, over-time payments, employee benefits, etc., should be thoroughly explored with each new addition to the staff. Rules, once made, should be strictly enforced. Promises, once delivered, should be as strictly honored.

STOCK

General

Although stock carried by a conventional theatre in one section may vary widely from that handled by a house in another, the bulk of the indoor concession business is based on four big sellers, popcorn, candy, beverages, and ice cream. Other items run all the way from French fried potatoes to candied apples, and don't miss many stops between. Diversity of stock is a matter for local decision, and it depends on local preference.

However, some basic rules will apply wherever a conscientious exhibitor plans to go into the concession business. First of these is to stock only quality merchandise. The opportunity to handle shoddy stuff with a high mark-up may prove tempting, but the wise merchant sells top quality only, relying on volume for his profit.

It is wise to stock adequate variety in order to give the discriminating patron a degree of choice, but there is danger inherent in buying for variety's sake. Too many times the fringe merchandise stays on the shelf until it grows old and stale while the public empties carton after carton of accepted brands. As a general rule, it is wise to stock less popular items in small quantity and to change the selection from time to time.

Regular checks on sales by items will give you an indication on which brands move fast and which roost on your shelves. It is wise to discontinue unpopular merchandise as soon as it proves to be slow-moving.

This is not by any means to suggest that new merchandise should not be tried when it appears on the market. Confection items, beverages, and ice cream products were all new at some time. When a reputable supplier introdues new merchandise, it is good business to give it a trial in limited or reasonable quantity. As a matter of fact, new brands of candy, for example, seem to do better in theatres than at other outlets. Some brands are sold in theatres *only*. Here again, a check on how well the new item sells is valuable in determining its permanent place on the display rack. Good new products can be gotten off to highly profitable starts with extra effort in the way of special displays, sign reminders, etc., that will mean extra money in your cash drawer.

Popcorn

As mentioned earlier, popcorn accounts for roughly 50 per cent of the concession dollar. More than 96 per cent of all theatres in the United States sell popcorn. The few holdouts are found generally among the super-deluxe downtown first-runs. Even here, however, the percentage of houses selling popcorn is extremely high.

Of theatres replying to a recent survey, more than 80 per cent do their own popping in machines set up in the concession stands. Almost 20 per cent pop their corn elsewhere and keep it in warmers at the stand. Only two per cent buy packaged corn pre-popped and sell it cold.

Local fire ordinances are still responsible for some of the few outlets popping their corn away from the point of sale. In other cases, circuits operating more than one theatre in a given community pop corn in a central location, and deliver it to warmers in their houses. In some of the larger, 1000-seat-and-up houses, the press of patronage at show breaks makes it advantageous to prepop the corn outside the theatre to insure an adequate supply for peak periods.

Boxes Versus Bags

A recent survey showed almost a draw in the controversial issue of boxes versus bags for popcorn sales. Slightly more than 45 per cent of the respondents to a survey sell their corn in bags, with 40 per cent preferring boxes. Some 15 per cent offer it both ways.

Although the five cent bag of popcorn is still available in 10 per cent of the theatres, the largest seller, and the staple package in this item, is the 10 cent size. The 15 cent package, where offered, has usually been an alternative to the smaller 10 cent bag. Observers report, however, that there appears to be a definite trend in favor of the 15 cent, and larger, size package.

Buttercorn

A trend in the popcorn business to watch with interest is the growth in popularity of buttercorn. This item is just about what the name implies, popcorn served in a box or waxed bag with a liberal supply of melted butter poured over the top. Prices charged for buttercorn are higher than for conventional popcorn, of course, usually 20 cents where two teaspoons-full, or servings, of butter are added, and 25 cents with three servings.

On the basis of experience so far, buttercorn appears to be a valuable addition to the lineup of items offered by the larger, roomier concession stand. Its preparation requires addition of a butter warmer to other stand equipment, and, of course, facilities for keeping the butter, or margarine, cold and fresh overnight must be available. The product seems to appeal primarily to teen-agers and younger children, and where offered should be advertised and merchandised to catch attention.

Pushing Popcorn

Popcorn is one item that scarcely needs pushing in the conventional theatre. The fragrant aroma of popping corn, the intriguing sizzle of a kettle about to flip its lid, and the sight of the white and golden balls of fluff bouncing around a spanking-clean machine add up to perfect merchandising, and do most of the selling necessary where popcorn is concerned. For this reason, it is extremely good business to have the pop-

corn machine where it is readily visible to all parts of the lobby to serve as a beacon to attract attention to the rest of the stand.

It is equally good merchandising to place beverage dispensers close by the popcorn machine. Popcorn is a thirst-provoking item. Experience has proved that most patrons buy popcorn when they enter the theatre, coming back to the stand at intermission for Coca-Cola or some other beverage.

It goes without saying that the popcorn machine should be kept spotlessly clean at all times, that it should be kept in constant action instead of being filled and left idle, that ample supply of corn should be prepared in anticipation of peak periods of traffic, and that popcorn should be kept hot and fresh always.

The preparation of popcorn is a delicate art that takes understanding and practice. The reputable salesman from whom one buys a popcorn machine has a complete understanding of this process, and is more than glad to pass it along to personnel charged with subsequent popping. It is advisable to let him check personnel on the operation of the popping equipment for best effect.

The process starts with the purchase of good corn, salt, and seasoning. Unless storage facilities are absolutely ideal, and the business is brisk enough to warrant purchase of the 100-pound sack, the hermetically-sealed 10-pound can of popping corn is usually considered the best buy. Although some authorities disagree with this, at least one expert in the popcorn business believes that this is a good rule of thumb: a theatre doing less than $150 per week on popcorn is better off with the 10-pound tin than with the larger bag, despite the small premium paid for the smaller package.

Candy

More than one-fourth of all candy bars sold throughout the United States is sold through concession stands in theatres, although film houses represent only two per cent of outlets selling candy. This is caused by a combination of factors. The theatre patron is out for amusement, he is in the mood to spend money to satisfy personal desires, and everybody likes candy.

Alert exhibitors have recognized these factors working in their favor, and have done a good job merchandising candy in their refreshment stands. More than 90 per cent of the theatres sell candy, even though, unlike popcorn, candy must be merchandised to sell.

We have covered in a general way the value of display in the sale of candy. This much additional reference is pertinent. The better the display, the higher the candy sales and the greater the profit. Slanting shelves, open displays, and attractive massing—all play their parts in attracting the customer.

POPCORN machine should be kept in action throughout evening to attract customers. Proper supply of corn ready-to-serve includes few bags or boxes already filled, supply on the pan.

A MAJORITY of operators believe that open-face displays of candy are better, boost sales considerably. People like to handle before buying.

Pilferage

One comment is appropriate on the subject of pilferage, a matter that appears to worry some exhibitors in connection with open-face display. The general experience of concessionaires across the country has been that pilferage accounts for a very small loss, and can be easily controlled. And the selling advantages of open display, as opposed to closed-top cabinets, cannot be overlooked. In some situations where open-top cases have led to pilferage, the problem has been solved by the addition of a narrow glass strip along the front of the case. In other instances, sample stocks *only* are displayed on the counter-tops, with bulk storage on shelves below.

Variety of Stock

The problem of stocking in wide variety has been discussed at some length, but specific application to the candy counter is worthwhile. At one successful concession stand, 47 per cent of the volume is done in 17 name brands of candy although the stand stocks 130 different varieties. The nationwide average is 30 to 50 brands of candy stocked, with volume sales coming mainly from less than a dozen.

As in other lines, new items introduced by reputable candy makers deserve careful consideration and thorough trial. Frequently, introduction of a new confection can serve as the focal point of an attractive display that will provoke interest throughout a weekend, or even longer. Records of sale of all candy items carried are valuable as guides on how to restock. This principle is especially important when considering new bars.

Candy Business Seasonal

To some extent at least, candy sales are seasonal. This does not mean that the public stops buying candy during hot months. They do shift allegiance in the summer, however, preferring cool mints, fruit gums, and other cello-wrapped items to the winter favorites, chocolate, and nut bars.

It is extremely wise to watch stock closely during the hot months, concentrating chocolate and nut items in a few best-sellers, reducing inventory slightly, and ordering more frequently. Chocolate bars tend to go limp and gooey with heat, while nut bars may easily become wormy during warm weather.

The candy counter can continue to do a brisk business all year round if smart promotion is used. Cooling decorations surrounding tempting stacks of mints and jellied-candies will help take up the seasonal slack in this profitable line.

Freezing of Candy

Another solid merchandising idea in connection with candy sales is the freezing of bars in the ice cream cooler. Although freezing causes chocolates to go lighter in color, it is not in any way harmful to any type candy, and may actually add sales appeal to such things as chocolates, nut bars, and nuggets. Here again, the public won't know about this special feature unless it is told by

alert attendants, by special displays, and signs advertising "frozen candy bars," etc.

Concessionaires everywhere share the opinion that a candy bar with torn or soiled wrapped should be immediately thrown away, not given away. This is, of course, to get the soiled wrapper out of the display, where it will detract from the overall appearance of the counter, and give an impression of untidiness and carelessness. If the wrapper should be soiled or the bar in any other way damaged while it is in the carton, it should, of course, be turned in for credit to the distributor.

To Price or Not to Price

A matter of widespread discussion among men in the candy industry has been the question of whether or not to show prices in connection with displays. As in other sales operations, grouping different items by price would appear to be a good thing, with the price posted prominently in each section so that the customer can shop price and have his change ready for the attendant. However, the fact that many exhibitors feel that sales drop when the public becomes price-conscious is reflected in the fact that only 25 per cent of them show any prices whatsoever.

Happiest solution seems to be this: give featured position in the counter to items with top profit. This may be front and center or at a high-traffic end of the counter, depending on the position of the stand.

As a matter of general interest, here is the price-sales policy of houses across the country: roughly 97 per cent of them handle nickel bars; 86 per cent sell 10 cent bars; less than 17 per cent have candy at 25 cents, and an adventuresome five per cent go in for higher-priced items, including boxes and cello-wrapped bags. Five-cent bars account for three-fourths of the theatre candy business and 10 cent bars for most of the rest.

Penny Items

The above figures do not, incidentally, include one cent items, which are stocked by stand managers in many sections of the country. Many far-thinking exhibitors have lowered their admission prices for children to nine cents because of the 20 per cent federal tax, and find the extra pennies coming back to them through the concession stand. For that reason, they carry an assortment of penny items, such things as Tootsie Rolls, Walnettos, and mints being most popular. In playing for pennies today, the exhibitor is bidding for dollars tomorrow.

Freshness of stock is of paramount importance in the handling of candy. Most popular practice seems to be the purchase of candy bars in 100-count cartons, although many experts think this is inadvisable for smaller stands. Although there is a slight saving in the 100-count carton to those packed 24- to 60-up, the smaller cartons safeguard freshness and quality and increase turnover in stands doing only nominal candy business.

In an effort to determine precisely how atmospheric conditions affect different classes of candy, the National Confectioners Association and the Refrigeration Research Foundation have undertaken tests of 18 classes of candy, more than 300 different kinds of confection. Results were reported as follows:

1. Not all candies can be stored under the same conditions.

2. Certain candies must be kept at low levels of relative humidity, these being hard candies, milk chocolates, solid chocolate bars, chocolate-covered peanuts, and peanut brittle.

3. Such candy as peanut rolls and peanut butter taffy, coconut squares, and milk chocolate need refrigeration to be kept a substantial length of time.

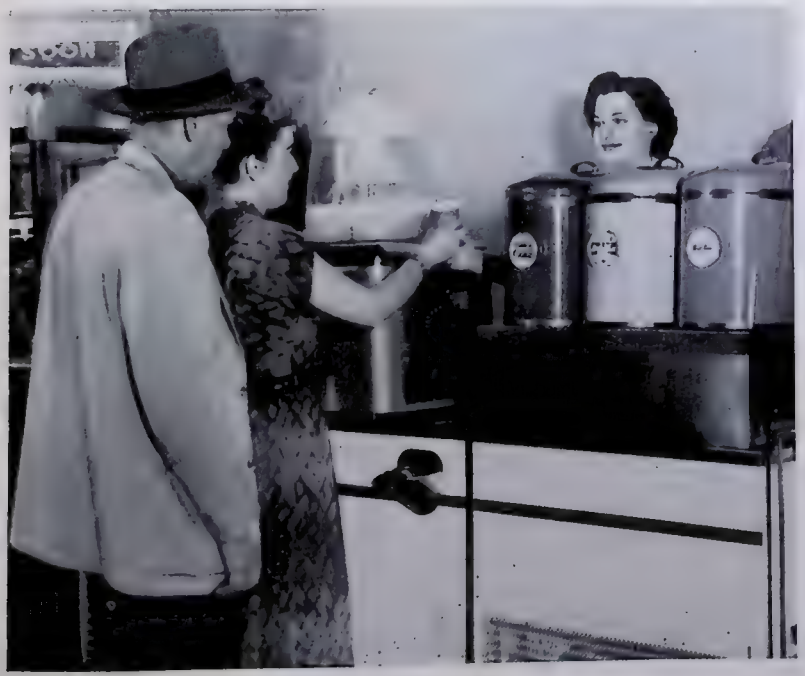
4. The highest level of relative humidity at which any candy can be stored for more than a few weeks is 65 per cent.

5. When candy is stored where temperature is kept below 50°, no safeguards need be taken against insects.

6. Low temperatures are always safe for candy. There is no danger of injury by freezing.

7. To prevent "sweating" of candy when it is removed from storage where temperature is much lower than that of a display case, it should first be placed and allowed to remain for a short time in space that is only from 15-20° higher than the temperature of the storage space.

The consensus of the industry on the length of storage desirable for candy stock is that a three-week supply, kept in adequate storage space, will provide normal operation, allow for unexpectedly heavy peak sales, and still stay fresh.



SURVEYS indicate most popular beverages at theatre refreshment stands are (1) Coca-Cola. (2) root beer. (3) fruit-flavored carbonated drinks. Refreshment stands frequently carry all three.

Beverages

Third most important concession item at the conventional theatre is the cold beverage. More than 79 per cent of circuit houses and over 60 per cent of non-circuit operations now sell beverages, either over refreshment counters, through automatic vending machines, or both.

Coca-Cola is by far the most popular beverage offered, appearing as a featured item in over 50 per cent of all theatres in the country. Root beer is offered in 35 per cent of the houses; other carbonated flavors in 19 per cent, and still-water orange drinks in 18 per cent. The current trend is to feature multiple-drink dispensing units, offering Coca-Cola, root beer, and either orange or some other fruit flavor. Still-water fruit drinks have some popularity, and frozen fruit concentrates are slowly gaining. Hot beverages have not made much headway in conventional houses, although coffee is offered in a scattered few.

Beverage Department Profitable

The average theatre in the United States does more than 500 gallons of business a year at the beverage counter. This can be a tidy item on the profit ledger, as more and more operators are coming to realize. For one example, a gallon of Coca-Cola syrup makes 115 drinks. The spread between the price paid for the syrup and the gross intake at five cents per drink is four dollars a gallon! In other words, the average theatre does in the neighborhood of $2000 gross each year on beverage sales alone if the bulk of its beverage business is in Coca-Cola!

A recent report in the national trade press cited several reasons for featuring beverage sales at the theatre concession stand in addition to the straight profit angle, ease of service, public demand and acceptance, ease of handling, stimulus for sale of other items, etc.

Where bottled drinks are handled, they are poured by theatre personnel into

paper cups before being handed to the customer. The cup machine or the self-contained dispensing unit is most widely-favored medium for beverage sales, and the paper cup is the standard container.

Many theatres now provide some form of cardboard trays for carrying several drinks into the theatre at a time on the valid premise that much refreshment buying after patrons are seated is done by one member for an entire group.

Right-Buying of Syrup

One special factor is worthy of mention in connection with buying of beverage syrups. Many operators order and take delivery of syrup in large quantities on the theory that slight savings thus effected make the practice desirable. This is definitely not the case. Beverage syrups should be bought a week's supply at a time, on the same day every week. Like other fine food products, syrups should be protected against the natural hazards of storage and heat. For that reason, and to insure top quality drinks at all times, a week's purchase at a time is highly desirable.

Merchandising of the beverage department is important and comparatively easy. In many cases, the customer is eager to buy a refreshing drink. One has only to let him know that it is available, and where. To help in this regard, most beverage companies supply attractive signs and display materials of all sorts that dress up the refreshment stand and help sell. For example, The Coca-Cola Company offers a wide variety of materials which merchandise Coca-Cola and the concession stand as well. Dispensers themselves, where installed, are attractive additions to the merchandising operation. Particularly in the case of nationally-advertised products like Coke, appearance of the celebrated trade mark goes a long way toward getting people to buy.

Once again, it should be remembered that certain items are naturally complementary. Placement of the beverage dispenser next to the popcorn machine will improve sales in both departments.

Ice Cream

More than one-third of managers now sell ice cream in one form or another at refreshment stands. More than half the larger houses are in the "yes" group. This represents a sizeable gain in this department in recent years, and is, perhaps, a trend. Even so, ice cream is not as big a factor in the conventional house as it is in the drive-in.

Chocolate-covered bars appear to be the most popular items in this class, either on or off the stick. They are followed by ice cream sandwiches and fruit sherbets on a stick, including Popsicles, etc. Snow cones have recently begun to find favor in scattered indoor houses, and are a big item at the drive-in. However, Snow cones and others in this class must be watched carefully because of the possibility of their being dropped on the floor, as they often are by children.

As in most other concession items, display helps the sale of ice cream considerably. This factor has become increasingly important recently with the introduction of self-service dispensers which can be built into snack bars, offering the customer display of ice cream products and the chance to serve himself. Some houses, notably those in larger circuits have devised their own methods for the self-service of ice cream products.

Some five per cent of the houses are said still to prohibit the eating of ice cream in the theatre auditorium, but this is a disappearing rule.

Other Items

Sixty per cent of America's theatres sell chewing gum at their concession stands, despite some complaints about the cost of cleaning it off seats and carpets. However, most progressive exhibitors adopt the idea that they will have cleaning bills to pay whether they sell the gum or someone else sells it. And in 90 per cent of the cases interviewed, house managers reported that selling gum at their candy counters did not increase their cleaning bills.

Roughly one third of the snack bars offer hot nuts. These usually are kept heated in colorful and attractive warmers that do a good job of merchandising the product. Nuts sell well in some sections of the country, and are fairly profitable. Disadvantages lie in their storage, which must be absolutely air-tight, and in the fact that sale of nuts may interfere with the sale of popcorn.

STORAGE

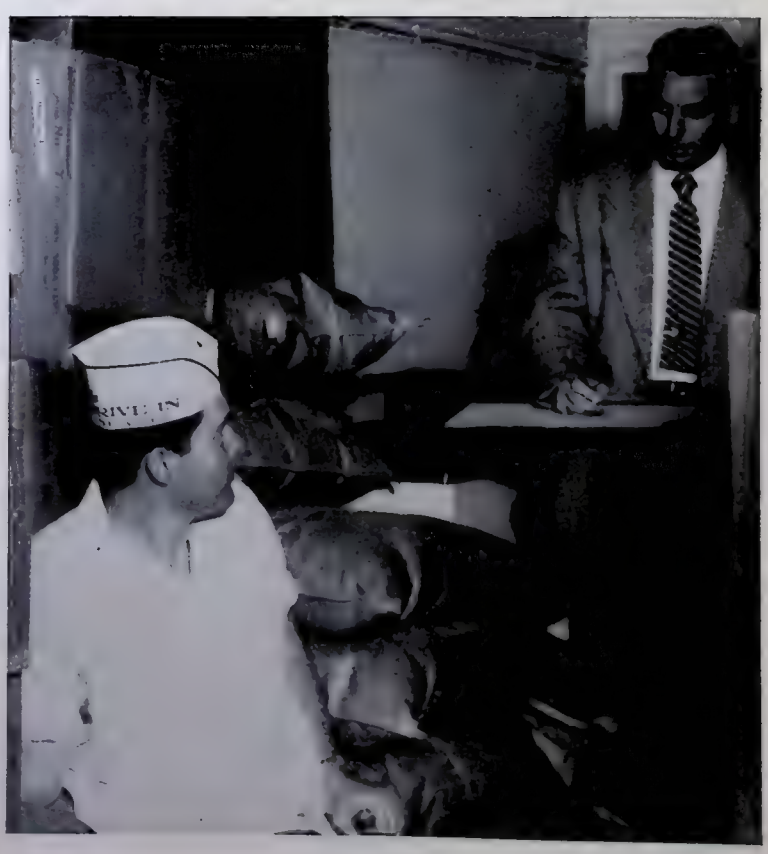
In addition to shelves and cabinets within the stand itself, an adequate concession requires a storeroom where enough stock may be safely kept to operate the stand properly, a week's supply of beverage syrups, three weeks' supply of candy, etc.

This room should be cool, clean, and well-ventilated. It should not be near furnaces or hot water pipes. It should contain shelving for candy stock and a cold cabinet for surplus ice cream stock, if carried. It should be easily available to the candy stand, and yet accessible to the street. In many theatres, this happy arrangement is not possible, and it works a real inconvenience when bulk stock must be carried up and down stairs and around corridors.

The storage room should contain no broken cartons, if possible, because full carton stock makes inventory easier and more accurate.

As a general rule, it is wise for only the theatre manager or the concession manager to carry keys to the storeroom. For obvious reasons, this can go a long way toward eliminating shortages.

Stock inventory must be taken often, and must, of course, be accurate. Although the schedule in each situation may be different, it is wise to check stock at least once each week. This can be done easily if shelves are properly spaced, and if merchandise is carefully arranged where it is easy to see and count.



FREQUENT, accurate inventory is a must. Only a manager should carry keys to the storage area. Storeroom must be clean, dry, well ventilated.

WHERE space for placement of a stand is a problem, additional service area is provided by curving counters. Notice the strip of tile around counter, protecting expensive carpeting.

A small mount of money spent in the printing of special forms for checking in and out the supplies in the storage room will pay dividends in speedier and more accurate inventory.

As a factor in speedy service, items with rapid turnover should be placed where they are easiest to reach. Many candy cartons, and most cartons for beverage syrups, will bear the date of manufacture and shipment. Stock should be rotated so that merchandise with the oldest date gets used first. Best system is to put new stock, as it arrives, at the back of the bin or at the tag end of a line. With careful check kept that no merchandise is kept too long, and that oldest-dated cartons in storeroom are always used first in restocking the stand, the general freshness and quality level will be easier to maintain.

EQUIPMENT

Choice of equipment in planning a modern concession counter is limited only by space and imagination. Almost any device or piece of equipment desired can be readily obtained.

Earlier in this article, we went into some detail about the arrangement and placement of candy counters because they are the core or hub around which a refreshment stand is built. There are many handsome, sturdy cabinet lines on sale through theatre equipment and restaurant supply companies. A check on these lines offers the easiest solution to the problem of proper cabinets. Where the local layout is unique, one can usually get carpenters and technicians to make cabinets to specific need.

Manufacturers of equipment to make popcorn, to warm nuts and or butter, to keep ice cream cold, and to dispense beverages are well known to theatre owners. The local situation will determine the precise equipment setup most valuable for the planned concession stand. Representatives of reputable equipment houses and the service men for suppliers are authorities in their fields, and can give valuable help and advice in the selection of proper equipment.

In planning a stand, it is wise to make certain in advance that power, drainage, and water facilities are adequate. For example, a refreshment stand requires an electrical system able to take peak loads when all machinery is in operation at the same time. Often it will be necessary to have both 110 and 220 volt circuits that will handle loads up to 60 amps. It is a good move to have a separate switch panel for the snack bar equipment, to prevent, for example, the inadvertent turning-off of the refrigerator overnight.

It will pay the manager of a concession operation to acquaint himself with the general workings of his refreshment stand equipment. A modern installation is likely to include drink dispensers, popcorn machines, ice cream box, coin-operated candy machines, coin changers, and carbonators, and refrigeration units, in addition to heating, water, wiring and drainage systems. A good layman's knowledge of each part of the operation will save repair bills, to say nothing of profit. The "out of order" sign should go up only when serious trouble appears, and then for only a short period of time.

In the interest of protecting his equipment, the conscientious concession man will schedule regular periodic inspections of all operations, where possible, by manufacturers' representatives. He will strictly enforce cleaning schedules, and teach his counter personnel as much of the basic equipment operation as they can absorb. Planned emergency procedures in case of unit failure should be worked out in advance, and posted in an easily-accessible spot.

CLEANING

Cleanliness is a vital part of the concession stand's operation. Every employee who works behind the counter must be made responsible for his share of the cleaning duty, and must be impressed with the general necessity of keeping counters and equipment spic and span at all times.

An occasional wipe-off with a damp rag will keep glass-topped counters shining throughout the day, and they should be thoroughly scrubbed after closing every night. Inside shelves should be stripped and washed at least once a week. A change of shelf paper, where used, should also be made weekly. The facing and trim of the refreshment booth itself should be cleaned regularly with a damp rag. High gloss or sheen surface is easiest to clean.

The kettle and pan of the popcorn machine should be wiped with clean paper napkins as often as the press of business will allow, and washed every night. Other sections get weekly cleaning, and still others receive attention at longer intervals. If a dispenser for Coca-Cola and other beverages is used, the cleaning job is a weekly operation. It includes cleaning the syrup tank, the ice compartment, lines, and drains.

Actually, each separate piece of equipment presents its own cleaning problem, and provides its own answer to that problem. As a general thing, one finds complete instructions for cleaning and maintaining a piece of equipment attached to it on delivery or in its box or crate. If such instructions are not included on delivery, they are always available from the manufacturer, and may be had upon request.

These cleaning schedules, once obtained, should be carefully posted where the personnel can have them available. They should be followed to the letter, and will add to the long life and effective service of the machines in question.

The area immediately surrounding the snack bar is as important to the stand as the stand itself, and should also be the responsibility of concession personnel. A two- to three-foot strip of special flooring around the outside of the counter and in the service area will keep cleaning work here to a minimum. Vinyl plastic, terrazzo, ceramic tile, and other materials have been successfully used for this purpose. A similar section of special flooring should be placed under and immediately around the drink-dispensing machine one has spotted away from the concession stand.

Although not, strictly speaking, a part of the concession business, the cleaning up of refreshment items has presented such a problem in past years that a few workable suggestions along that line should prove profitable reading.

In removing chewing gum from hard surfaces, use a long-handled scraper if the deposit is a day or more old. If it is fresher, sprinkle some kind of dry powder, like whiting, on it. It can them be scraped off. In removing gum from a carpet, saturate the pile around deposit with solvent-like tetrachloride. To remove gum from fabrics, either carpeting or upholstery, apply a piece of dry ice to gum deposit long

enough (a few minutes) for the gum to become brittle and flake off.

In removing popcorn use a broom on waxed floors, otherwise, a vacuum cleaner.

In removing trash and refuse, detach the vacuum hose from the intake, connection, attach it to the exhaust, using the blowing action to push the trash between seats to a central collection point.

In removing ice cream spilled on carpets, wipe up with rag saturated with ammoniated water, unless a grease spot has been created. In that case, use solvent.

In removing mashed candy, on hard floors, wait until it hardens, and then scrape off. In small spots on carpets, use alcohol on most ypes of carpet, and hot water on others. In large spots, use clear, warm water, feathering-out the wet area to make it less conspicuous. If a greasy spot has appeared, follow with solvent.

In removing beverage spots from concrete, asphalt tile, rubber tile, ceramic and quarry tile, and linoleum, mop up with clear water; from marble or terrazzo, mop with clear water immediately to prevent permanent stain from acids; from carpeting, mop up with wet rag and clear water if the job can be done before the spot dries, and from carpeting after spot dries, apply hot glycerine and rub with small, stiff hand brush. Wash off with clear water, feathering-out to avoid lines of stain.

Cleanliness of the entire concession operation, including the theatre seats and floors, is a matter of preservation as well as a matter of pride. Bits of sweets and other edibles imbedded in carpeting or upholstery attract mice and vermin.

MANAGEMENT

In wrapping up this discussion of concession operation in the conventional theatre, we have saved until last a few random bits of information and tips on procedure which come under the heading of Management.

—Slightly over 10 per cent of the nation's indoor refreshment stands are leased out. In some 90 per cent of the houses, exhibitors and house managers handle the reins of their own refreshment departments.

—Two factors should be kept in mind since the theatre business and concession business are so different: first, that concession employees should be appraised and hired according to their fitness for the concession operation, not theatre jobs; second, that bookkeeping and administration of the house and the concession stand should be kept entirely separate.

—Finally, that theatre patrons are still, primarily, theatre patrons. The program should be the big item, and the concession stand should be a valuable partner in successful operation. The only limits imposed on the profit possible from a concession stand are imposed by management in the placement of the stand, the merchandising of that stand, and the variety of items offered for sale, and by the personnel who serve the public, through their cleanliness, cheerfulness, and sales ability. Properly operated, the concession stand is, in truth, a second boxoffice inside the conventional theatre, and a highly profitable one.

THE DRIVE-IN THEATRE

The Stand Itself: History

Possibly the outstanding single development in exhibition in recent years has been the tremendous and growing popularity of the modern drive-in. Before World War II, drive-ins were, for the most part, primitive establishments consisting of rickety screens, small projection shacks, and cleared areas of raw dirt.

Today, the picture has changed entirely. The modern drive-in draws its clientele from people of all ages and all economic levels. It has become a highly-popular *family* amusement center, catering to the motion picture fan from tenderest years to old age. The physical plant is a masterpiece of modern design, with sweeping acres of paved parking space, the most advanced projection and sound equipment, clean and attractive rest rooms, and spacious, inviting snack stands that sell everything from popcorn to fried chicken dinners, and take in 45 cents in addition to every dollar that crosses the ticket counter.

On the surface, constructing, stocking, and operating the drive-in concession stand presents the same problems as would any roadside restaurant or short-order stand. There is one important difference, homever, and it effects every phase of the business:

Customers converge on the drive-in snack stand in large crowds during one or two peak periods each night. Otherwise, traffic is almost non-existent.

The planning of the stand itself, the arrangement of equipment units, the work schedules of stand personnel, and the preparation of food items are all centered on the necessity of serving the maximum number of customers in the very short interval usually 10 to 20 minutes between shows.

Placement of Stand

For this reason, the stand should be placed where it is most easily available to all patrons. Usually, this is in the virtual center of the parking area. preferably in the same building which houses rest rooms and projection equipment.

There are many styles of stand-design popular today. In one of them, the customer actually enters an open section in the center of the stand which runs parallel to the picture screen. In others, windows or doors open to allow patrons to walk in from the screen side of the stand, and buy refreshments without missing action on the screen. Still another favored style has counter-height windows which open in a line at right angles to the screen. In this type operation, the customer stands outside, and buys over the counter.

Any of the above styles is effective. About the only rule which should not be violated is that of keeping the lights and sights of the concession stand out of the eyes of patrons seated in cars behind the stand. This usually means arranging the stand so that it does not open directly away from the screen.

Addition of a terrace in front of the stand, facing the screen and set up with tables or wide-arm chairs, is also a lure to customers.

Whether the snack stand is entirely enclosed or whether it opens across the front with folding doors or sliding screens depends on typical weather conditions in a given community, among other things. Easy entrance and exit should be carefully planned in any case.

The outside decoration and design of the stand should be simple and attractive, with emphasis on functionalism. Since drive-ins operate entirely at night, money spent on elaborate outside decoration of the stands is pretty well wasted.

ENTIRE concession stand must be kept clean at all times. Adequate supply of trash containers puts the customer to work for you in keeping floors, counters free of trash and debris.

BEFORE the sun goes down, the crowd begins to gather at the modern drive-in. Many come for sandwich suppers, boxed meals, or after dinner dessert. First show attracts couples with children.

The size of the stand will be determined by the size of the theatre, the patronage that it draws, and the job the exhibitor wants to do.

Serving Plan

Largest bone of contention among designers of drive-in snack stands, and one that is by no means buried as yet, is in the area of counter design.

Three different types are in general use, and each has its champions and detractors. Fifty-three percent of the theatres feature the old-fashioned counter-style operation, where a customer comes to any spot along the counter, tells the attendant what he wants, is served by that attendant, and pays him.

Twenty-seven percent of the operators, many of whom started with counter-style set-ups, have switched to a "station" arrangement. In this plan, each attendant works a station which offers every item available in the stand. Each station contains a popcorn machine, beverage dispenser, candy case, etc. The customer approaches the handiest station, and is waited on by its attendant.

Cafeteria Style

The most modern arrangement, and one to which many stands are being converted, is the cafeteria layout, now featured in 20 percent of the drive-ins. In this setup, the customer enters a line, passes displays of all merchandise for sale, makes his selection, and pays a cashier at the end of the line. Experience has proved that the cafeteria system, where used, is capable of serving more patrons in a given period of time than either of the older systems. However, in order to do justice to all three schools of thought, it would be well to give pros and cons of each system:

Counter: Prevents duplication of displays, and centralizes operation, is easiest and least expensive to install. On the other hand, it increases the work of the attendants, who must cover all parts of service area. It creates customer discontent because of crowding confusion of order of service, and longer time needed to fill each order. There is poor money control, too.

Station: Serves more people, easier and faster than the counter system. It offers the possibility of reducing service at slack periods by closing some of the stations, and makes possible personal selling by attendants. On the negative side, it is more expensive to operate because of duplication of services and equipment.

Cafeteria: Moves customers faster, and offers advantages of visual selling as all merchandise is seen by all customers. It cuts down on personnel required to handle large crowd, since counter men to restock displays and cashiers are only people needed, and gives the best possible control of the money situation. On the other hand, it leads in some cases to slight losses from pilferage, and cannot be run by a one-man shift in case of a minimum crowd.

Modifications Possible

There are, of course, modifications of these systems possible. Some theatres use a semi-station setup, with attendants working each station and serving customers, but turning all money in to central cashiers. Some cafeteria styles use two lines, one on either side of a center display area. Others feature four lines, working lines on each side of two center displays.

Where the cafeteria system is used, installation of a turnstile at the head of the line and rails along its length tends to cut down on the major objection to this style setup—pilferage. Placement of candy and gum stock under the close supervision of the cashier also helps eliminate this objection.

Tables for condiments, salt, pepper, mustard, pickle, catsup, and other items made available as a service should be placed away from the lines of stand traffic. In buildings where space affords it, condiment counters can be placed along the inside walls, serving also as eating areas. In other places, it has been advisable to put such tables outside, to pull patrons already served away from the heavy-traffic spots.

Determination of which style operation is best suited to the individual theatre will depend on a good many considerations. In general, however, the counter setup is least desirable, with most current counter operations being gradually changed to station or cafeteria style.

MERCHANDISING

The drive-in concession lends itself to advertising more readily than does its companion stand in the conventional house. This is because the snack bar is considered an important part of the outdoor operation. It is an "extra" indoors.

Excellent results have been obtained by drive-ins when their refreshment services have been plugged in radio, TV, and newspaper advertising. In addition, invitations to the snack bar are appropriate and effective on flyers advertising coming attractions.

Once a customer has passed the ticket booth, many things can be done to make him a patron of the snack stand. Seventy percent of drive-ins use film trailers, rotating a variety available from commercial film companies (National Screen Service, Alexander Film Company or Filmack) or suppliers (Armour or the Coca-Cola Company). Over 95 per cent use announcements on public address systems, usually mentioning some tasty items offered for sale and inviting patrons to visit the stand. These can either be done "live," with installation of a microphone setup, or an records or tape. Because of the between-shows break, standard to all drive-ins, these merchandising devices are highly effective.

The Stand Displays

The stand itself, and displays of merchandise in it, do a good job of asking the customer to buy. Stands should be attractive, neat, and spotlessly clean. Merchandise should be easy to see, invitingly arranged, and ready for immediate service. Signs on counters and walls should call attention to items for sale, list their prices, and describe them temptingly. As in any other type of store, displays and advertising material should never look junky or be overdone.

The placement of items to suggest additional purchases is highly effective. The Coca-Cola dispenser close by the

EVERYTHING at the drive-in concession stand is pointed toward the brief periods between shows when customers come in crowds. Sandwiches are prepared in advance, kept in warmers. Important job of estimating belongs to the manager.

popcorn machine suggests purchase of a delicious beverage to enjoy with, or after, the popcorn, etc.

No matter how much promotion is undertaken in behalf of the snack bar, the people who serve the public can be largely charged with success or failure of the enterprise. Attractive, courteous, and alert stand attendants can do more than anything else to bring patrons back for repeat visits.

Ten per cent of drive-ins use ramp boys to service automobiles. This system has proved valuable in adding impulse sales and in serving older customers who can't or won't leave their cars. Major objection to this system is that, to do effective sales job, ramp boys must disturb customers by calling their wares, and this, of course, irritates some people. However, more modern carts have lighted signs which identify them to the customers in their cars, and makes it unnecessary for boys to announce themselves. Where used, most carts include refrigeration units for keeping drinks and ice cream cold, and some have heater units for hotdogs, etc.

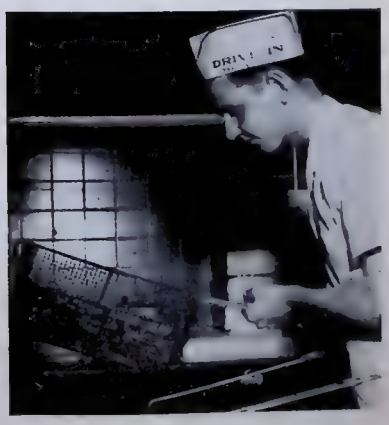
Several of the more progressive drive-in concession stands now do brisk business with box suppers, featuring the "supper and show" idea in advertising, and providing complete meals in waterproof containers. Almost all stands furnish card-beard trays at the ends of their counters, making it possible to carry sandwiches and drinks back to cars in quantity.

Contests Promote Stand

Giveaway contests of various kinds have proved successful in attracting attention to the snack bar. Such tricks as posting automobile license numbers or Social Security numbers in the stands, and giving prizes of merchandise to the lucky number holders can stimulate interest in and visits to the concession stands.

Rides for the kiddies and fully-equipped playgrounds are attached to many drive-in concessions, again to lure the family out for an early visit, supper, and the show. In some cases, pre-show interviews over the public address system are used to attract customers.

STAND personnel for the drive-in theatre must often be short-order cooks as well. Here an attendant readies a batch of French fries.



MODIFICATIONS of counters and station systems are popular. In this drive-in concession stand, patrons come inside at doors on either side; to center for hot items, to ends for beverages.

PERSONNEL

In general, personnel problems and their solutions are the same for drive-ins as they are for conventional houses. In some cases, however, more elaborate stands need cooks and other kitchen help not required for the indoor theatre. Almost any good drive-in man must be able to take his turn at the French fries, slice the thousands of slabs of bread needed for sandwiches, baste and turn and spit, and sauce the delectables that form the usual menu. This, of course, is a situation peculiar to each individual operation, and the needs must be met on the local level.

The "peak and valley" nature of the drive-in business, both as to nights of the week and as to periods during each program, makes it necessary to juggle the help to meet the demand. It is common practice to double the staff at the concession during weekends and for outstanding attractions. No changes are usually made during an individual evening's performance, since the attendants prepare for heavy business between period of actually serving heavy business.

As a general rule, the attendant at the drive-in concession stand holds another job during the day, and works at night to make extra money. High school boys are not too popular, since the late hours sometimes required aren't popular with parents. A great many more men are used in drive-in operations where women do the jobs indoors, for obvious reasons.

STOCK

General

On the basis of current experience, there doesn't appear to be any limit on the type or cost of food and beverage items that can be successfully sold at the concession stand. Popcorn is a big seller outdoors, as it is inside. Coca Cola and other cold beverages do tremendous volume. Ice cream sells better than in conventional theatres, although candy does not do as well. Sandwiches, hot and cold, particularly the hotdog and the hamburger, are tremendously popular. Other items range from shrimp and chicken dinners in the deep south to pizza in the north-central states to fried clams in New England to hot barbecue in the southwest.

Depending on the size and popularity of his operation, the concession manager at the drive-in can be as much or as little of a restaurateur as he chooses. In addition, he can recognize extra profits and good will by stocking service items, like toothpaste, razor blades, soap, etc.

Because the "smoke when you like" theme is a popular part of drive-in radio and newspaper advertising, it is important for the concession stand to carry leading brands of cigarettes. It has been found that a vending machine, placed on wheels, and set up immediately outside the stand, is the most effective method of serving this commodity.

Knowing that he has a hungry, thirsty, eager audience for which to perform, the concessionaire can be gaudy and adventuresome in his selection of stock or stick to the tried and proven items already known to sell well. The payoff is in properly reading the buying mind of his customer, stocking the items that will sell in his community, and merchandising them to his patrons.

Popcorn

Popcorn continues to be the high-sale and high-profit item at the drive-in it has proved itself inside. Reliable surveys indicate that *all* drive-ins handle popcorn.

Methods of sale differ from section to section, with many theatres selling the popular item in more than one way. For example, maintaining either popping equipment or warmers at the ticket-shop outside the theatre has increased sales substantially in many cases, and has apparently not hurt business at the concession stand.

Those operators who do not like the practice of selling popcorn at the ticket window hold that it keeps patrons from coming immediately to the refreshment stand, but the answer seems to be that a customer in the hand is worth several scattered around the parking lot. A pleasant suggestion, "Popcorn for everyone," voiced by the attendant at the ticket window, can do a great deal to push sales at the spot.

RAMP-BOYS still make money for some drive-ins, selling merchandise among the parked cars. Typical arrangement in cafeteria-style drive-in stand. Notice attractive display of items . . . self-service ice-cream box. Widearm chairs enable patrons to watch show through open front. Rides for the children, boards for posting of "luck numbers" are parts of refreshment stand merchandising at the alert drive-in.

Statistics indicate that boxes are preferred to bags for popcorn sales at the drive-in. Sixty-nine per cent use this method of packaging. Most popular size is the 10 cent box, offered by 95 per cent of the theatres. Only eight per cent have a 15 cent size, and 23 per cent do big business with a family-sized package selling for 25 cents. Only one size container is offered by 63 per cent of the theatres and two sizes are available in 26 per cent.

As it is in conventional houses, buttercorn is gaining strongly in popularity at the drive-in. Thirty-seven per cent of the theatres now make this item available. It is usually sold through the concession stand rather than at the entrance.

As is true wherever popcorn is sold, the sight, sound, and smell of freshly-popping corn is a great lure to the hungry customer. Perhaps no other item offered by the refreshment stand does as good a job in bringing customers to the counter. Recognition of its value should place popcorn equipment in a key position in the planning of the refreshment operation.

Candy

Perhaps because of the wide variety of other items offered at the drive-in concession, candy does not do the brisk business here it does inside. However, all stands stock candy, and many of them find it among their best sellers. It seems the better part of wisdom, with sales being what they are, to do a carful job in stocking the drive-in candy counter, holding primarily to name brands with known following, and merchandising the counter with advertising and display to the best possible advantage.

Among all theatres reporting sizeable sales of candy, the 10 cent bar is by far the best-selling item.

Beverages

As one might expect, beverage sales at the drive-in concession stand keep pace with high popcorn and sandwich sales. Coca-Cola and other cold drinks rate highest in popularity with roughly the same order of preference as shown in indoor houses. Root beer follows Coke in the list of favorites, with fruit-flavored carbonated drinks next, and then still-water beverages. Here again the frozen fruit concentrates are showing increasing popularity.

One item that is a standby at the outdoor theatre but practically unheard of in the conventional house is hot coffee. In sections of the country where spring and fall nights are likely to be cool, coffee has been found to sell well, and to spur sales of other merchandise. Hot chocolate has also found a place at the concession counter, being paired with doughnuts in many theatres as an intriguing combination deal.

The size and type of business done by the drive-in concession stand makes it desirable to use the fastest and most effective equipment available in the dispensing of beverages.

Dispensers for Coca-Cola, as an example, deliver 115 drinks of uniform quality to the gallon of syrup, returning a gross profit spread of about four dollars at five cents per drink. By using a dispenser, the concessionaire gains uniform quality in the drinks he serves. He gets away from the necessity for drawing from more than one tap, and he avoids the danger of flatness in the drink from over-stirring. He combines his service operation in one handsome, practical piece of equipment that even the newest employee can operate perfectly, and simplifies his dispensing operation, speeds up service, and, of course, increases his profit.

Multiple-drink dispensers featuring Coke and two or three other beverages also do a good job, and deliver quality drinks.

Ice Cream

Ice cream products are a "natural" for outdoor selling in the hot weather months, and do well in the drive-in concession stand. Most popular items are chocolate-covered bars, sandwiches, fruit sherbets on sticks, and snow cones. Snow cones particularly have caught the fancy of the younger set, and are fast sellers in recent years. Frozen custard is a virtual newcomer to the field, and requires special equipment to serve, but is still enjoying widespread popularity.

Ice cream sales are made from conventional freezers in the case of most counter and station types of operation. They are made from self-service units in the cafeteria system. Some of the theatres using ramp boys for in-car sales find ice cream items profitable in this type of selling, also.

PROPER temperature is important in the service of beverages. Coca-Cola, soft drinks, fruit juices should be served ice-cold. By contrast coffee, chocolate must be dispensed piping hot.

Elaborate stands have experimented successfully with sundaes and other special items, usually prepared to order at a separate counter. Some success has been had with an item of known popularity, such as a chocolate sundae, fixed in quantity in pasteboard cartons, and sold during breaks between shows. Bulk ice cream in pints also sells well in some stands.

STORAGE

Storage facilities in the drive-in concession stand must be, in many cases, a great deal more detailed than those needed for an indoor house. Where many food items are served, increased space is naturally needed for storage of supplies. In some cases, large refrigerator units are required for meats and ice cream stocks. Cool, clean, well-ventilated shelf space is needed for candies, nuts, popcorn materials, beverage syrups, bread, etc.

With larger volume in a wider variety of items, inventory becomes a more exacting job and a vitally important one. The concession manager himself should properly assume responsibility for inventory and for stock control. He should keep accurate, up-to-date records on all items handled.

The job of restocking the display units in the service area from storeroom shelves should be done each night after closing of the stand to the public so that the entire operation is ready to open for business with no delay the following night.

MANY drive-ins have increased their popcorn business . . . and profit . . . by selling a large box to entering cars at the ticket booth. Attendant suggests box for each customer in each car.

EQUIPMENT

Equipping the concession stand of the modern drive-in is an enterprise which can range in cost from $3,500 to $25,000, according to size and design. The wide variety of machinery available, the variety of foods which can be successfully sold, the patronage of the individual theatre, and the size of the proprietor's pocketbook — all have a bearing on what equipment is selected for a given stand.

One of the most important new pieces of equipment discovered by many stand managers is an ice-making machine. Having this additional service at hand makes it possible to be sure at all times of an adequate supply of clean, crushed ice, something not easy to obtain otherwise. It is also a cheaper way of providing ice for stand operation, and can be expected to "pay for itself" in savings over a period of a few years.

Obviously, purchase of equipment should be an integral part of overall planning. Items should be selected which do the best possible jobs in their particular fields. Put the accent on speed and capacity.

Modern, efficient, up-to-date equipment will add to the life, and materially increase the profit, of a drive-in concession stand.

MANAGEMENT

Eleven per cent of the concession stands at drive-ins are operated on lease from the theatre management. Elsewhere, management operates its own stands.

The standard concession contract provides that the lessee supply equipment, purchase merchandise, and hire and pay personnel. The exhibitor furnishes gas, electricity, water, and space. The exhibitor gets from 22 per cent to 30 per cent of the gross sales as his return in most cases. In some instances, the exhibitor retains the right to hire and pay

THE DRIVE-IN concession stand has proven capable of serving and selling almost any type of food. Pizza, fried chicken, shrimp, barbecue. Pasteboard trays for sandwiches, beverages, have proved highly profitable. Almost all stands now use such trays. Warm, clean water and lots of elbow grease keep a refreshment stand attractive, inviting. Absolute cleanliness is a must in the service of foods.

concession personnel, in which cases he gets larger percentage of the gross. This is not considered a wise policy, however, since under this system the man charged with management of the stand has no actual control over his personnel.

Some believe that refreshment sales have a definite saturation point. When that point has been reached through good merchandising and other means, further sale of any one item is likely to be at the expense of another. As a matter of fact, veterans in the drive-in business caution operators against looking too hard for that magic limit. The drive-in, circa 1953, is a family trade business. If there are too many enticing items offered for his, his wife's, and his children's attraction, the man of the house may decide that the drive-in is too expensive for his purse. Or, what is almost as bad, he may elect to pay a baby-sitter to stay with the kids rather than bring them, and their expensive tastes, to the movie.

From any angle, however, the end is nowhere yet in sight for the upward spiral of the popularity of the modern drive-in and its successful sidekick, the refreshment stand. If there is a limit on what can be sold with success, and with profit, at the drive-in refreshment stand, it has not yet been found.

Cleanliness Is the First Principle

Profitable Refreshment Selling Calls For Well Groomed Attendants, Spotless Stands

"Pleasing ware is half sold." The words of this ancient proverb are as true today as they were when coined hundreds of years ago. For even in the days when merchant-farmers would crowd the open markets with their goods, the same reasoning that caused the public to buy from one stand and not the other, is still in use. Times may change, but the basic appeals that cause one to make a purchase are timeless. Perhaps the most fundamental appeal of all is cleanliness.

A vital factor in keeping the financial complexion of a theatre a shiny black, as opposed to a sometimes fatal shade of red, is the extra profits activities. Recognizing the importance of the candy, popcorn, soft drink or ice cream stand, it is almost axiomatic that everything be done to increase its sales potential. The principle that a stand should be kept clean and attractive is so simple that there is sometimes a tendency to take it for granted, and become a bit lax. However, no matter what the size of the town or theatre, an attractive clean stand has a direct effect on sales, and should be maintained at all times.

When a customer enters a theatre and finds some litter on the lobby floor, or even a bit of dust around he might resent it and grumble a bit. Chances are, however, it will not mean that he will stop patronizing the place. But let this same customer step up to the refreshment bar and make a purchase, only to find it unclean, melted or having an odor, there is every reason to expect that his contribution to the extra profits of that theatre will come to an abrupt halt. For while people might overlook carelessness in certain things, they will not tolerate it in something intended for their stomachs. The customer has every right to expect his candy or popcorn to be fresh and sanitary.

Rules for Storage

Since most items sold at a candy counter are of a perishable nature, a number of precautions must be taken. One of the major considerations is proper storage. You might purchase the finest products money can buy, but if you allow them to spoil because of improper storage facilities you face both a loss in reputation and sales. Although each individual theatre has problems peculiar to itself, there are a few general rules which should be observed.

When storing merchandise it should be in a room that is clean and completely free of vermin. Care must be taken that confections are not placed close to other items that have a strong odor. Chocolate, in particular, has a tendency to absorb these odors. Thus it is important that the storage facilities are large enough for the proper placing of merchandise. An overcrowded storage room leaves the way open for vermin and the waste resulting from crushed boxes.

As it is with most things, extremes are never very satisfactory. Therefore, while overcrowding, either on the stand or in the storage room, is incorrect, it is just as wrong not to have a proper supply on hand at all times.

Stock Control

The manager should always have a method of knowing what products are not moving. When stock is delivered the cases should be dated and arranged in such an order that the older merchandise is used first. An item that does not sell has a number of disadvantages, in addition to the obvious one of not making money. Returning to our principle of cleanliness, a display of merchandise that does not move soon become drab and unappealing. This tends to give the entire stand a less wholesome and attractive appearance, and decreases the desire to buy. It is important to keep the psychology of the buyer in mind.

BRIEF: ***The cardinal rule for the operation of a refreshment stand is that cleanliness must be maintained at all times . . . This applies not only to the stand itself . . . but to the personal grooming of attendants, storage of supplies, and the immediate surroundings. While the following recommendations for the proper operation of refreshment stands may seem obvious . . . there is often a tendency to take them for granted . . . and profit-killing laxity results. Extra profits call for extra efforts . . . and increased attention to the fundamentals of good refreshment stand operation will pay off in a higher volume of confection sales.***

ALL PREVIOUS PREPARATIONS pay off in satisfied customers who respect cleanliness.

Refreshment bar items may be healthful, but they are not a vital or necessary part of the diet. For this reason the average customer must be persuaded to make his purchase, and often the slightest inconvenience or discomfort will steer him away. If he is confronted with a spotless stand, and the items displayed in a fashion that creates a feeling of quality and wholesomeness, the passerby is on his way to becoming a customer. Being aware of this it is often wiser to throw out a product that doesn't sell and accept the loss, rather than keep it in valuable space that could be used much more profitably.

The problem of temperature is another which plays a leading role in determining whether or not the refreshment counter will live up to its purpose of extra profits. Although there is no generally accepted "correct" temperature, it is agreed that most types of candies may be stored safely for short periods of time within the range of from 60° to 70°. With this temperature the relative humidity should be about 55 per cent.

Air Conditioned Storage

The theatre that is air conditioned the year round and the one that is not so equipped face different problems. Non-air conditioned houses usually use a cold room to store and preserve items to go on the stand. There are opposing views as to which method is the most efficient. Those who favor the air conditioned room declare that chocolates kept in a refrigerated room, which is kept at anywhere from 38° to 60°, show a tendency to turn white when placed on the stand. They are of the opinion that when candy is taken from the air conditioned room, which is kept at a temperature of 68° to 76°, it is in good condition and is not affected when placed in the warmer temperatures of the stand.

Refrigerated Storage

Those favoring refrigerated storage have a number of strong arguments to back up their views. According to a scientific test it was determined that a temperature of 50° or lower prevents insect infestation during long term storage. Some other benefits claimed for the cold room are that the original odors and colors tend to be more stable at lower temperatures. Since the cold increases the firmness there is less chance of crushing or bruising during handling. Many candies have a slower rate of staling at the lower temperatures. Just which school of thought the individual theatreman will subscribe to will probably be determined by his personal experiences and the equipment available to him.

A theatre may have a refreshment bar that is properly located, have attrac-

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tive and modern equipment, and store the products so that they are in perfect condition. Despite these things, however, it is not getting the volume of sales it should. The answer may very well be found in the appearance of the attendant. In the Gilbert and Sullivan work, "The Sorcerer," there is a line that reads, "beauty will fade and perish, but personal cleanliness is practically undying, for it can be renewed whenever it discovers symptoms of decay." Those words could have been penned as sage advice to the operators and attendants of a stand.

The principle of cleanliness applies to everyone and everything connected with the extra profits operation of a theatre. To bring this forcibly to the attention of the readers of THEATRE CATALOG, the editors sent a photographer to New York City, where at the Avalon, Brooklyn, with the assistance of the cooperative management, the accompanying photos were taken.

A STRAY HAIR in food could mean a lost customer, and uncombed hair could mean much fewer customers at the counter. Miss Aleese combs her hair before serving patrons.

Customers of the candy counter of the Brooklyn house couldn't help being impressed with the personal appearance of the attendant. Both she and the management are aware that the well-groomed look is a must for food dispensers and a key to a successful stand.

Returning to the psychology of the buyer once more, a stand presided over by an attendant attractively groomed and with a quick pleasant smile, is often the most effective sales argument that can be presented. To accomplish this, the attendant need do nothing more than pay strict attention to the generally accepted standards of personal cleanliness.

Personal Cleanliness

Fully realizing the value of this, the management of the Avalon has developed a routine that encompasses the principle of cleanliness. Before going on duty our attendant sees to it that she has not overlooked any of the four "musts" for the food dispenser.

1. Well Washed Hands — Thorough soaping and plenty of hot water should be used. No customer wishes to be served by someone whose hands or finger nails are not clean or tidy.

2. Neat Hair — While being fashionable, the attendant's hair-do should be neat and in place at all times while on duty. A stray hair in food often means

CLEAN NAILS is another must, for nothing spoils a customer's appetite like dirty nails. Miss Aleese makes sure that her nails are attractive, another step to achieve complete satisfaction.

the loss of a customer. This point may be summed up by saying that loose hairs may mean lost sales.

3. Spotless Uniform — While it is not a must, it has been generally accepted that a uniformed attendant is definitely a sales factor, and would be worth the added effort and expense. However,

FIRST STEP for Miss Aleese in readying herself is a thorough washing of the hands. Using plenty of soap and hot water, the attractive candy girl safeguards the customer's health.

whether garbed in a uniform or a simple dress, the attendant should see to it that her outfit is free of stains and tears. A spotted outfit often results in spotty sales.

4. Clean Face — Regardless of the attendant's personal opinions about lip rouge and make-up, she should moderate

PEOPLE WHO BUY at the candy stand always find Miss Aleese in a clean uniform, for part of her extensive preparation includes checking the outfit for spots, tears, or any ragged edges.

their use while on duty. Customers' appetites seems to perk up when confronted with the well-scrubbed, wholesome face, as opposed to one that is heavily made up. Extra make-up decreases extra profits.

Carelessness, or disregard for these simple rules usually means both a loss in profits and prestige.

The term extra profits should also bring to mind extra efforts. No businessman has the right to expect his earnings to increase without his doing something to bring it about. With the constant improvement in products and equipment, the candy counter of a theatre should be a healthy and growing source of income. In the dust raised by the flood of new gadgets and items, the exhibitor may show a tendency to overlook some of the fundamentals, such as proper appearance. However, even a fine diamond loses much of its attraction if it is placed in a shoddy setting. Always strive to keep up with the times, but also pay attention to the basic principles — and Cleanliness Is The First Principle.

IT IS ALMOST time to go to work, so Miss Aleese makes a complete final check to be sure of a neat appearance, a clean, straight uniform, well-washed hands, and hair that is well-groomed.

TELEVISION and 16 mm. FILM

1953-54

The Eidophor System

An Explanation of the Large Screen Color Television Process Developed by 20th-Fox

In the past few years there has been such a flood of amazing technical advances made in the motion picture industry that there is a slight tendency to begin to take these developments a bit lightly. Just what has been the exact cause for this burst of technical achievement is difficult to determine. It might be the result of the pressure of television. The public's demand for something new and exciting might be another cause. The pressure of economics might be still another answer. Regardless of the why of things, there is no doubt that the past five years has seen the arrival of more new developments of major importance than had appeared in the previous twenty-five.

BRIEF: ***Before the current awakened . . . and feverish interest in three-dimensional and wide screen systems . . . 20th Century-Fox demonstrated a Swiss system of large screen color television which bore the strange sounding name of Eidophor . . . Based on a new and interesting principle . . . Eidophor . . . once it is offered to the theatres . . . seems like a perfect supplement to film entertainment.***

This article discusses the background and development of the Eidophor method of color TV projection . . . as well as a section on the equipment required . . . and some possible future applications of the method.

EIDOPHOR

One of the most exciting of these recent advances is a new system of projecting large-screen television pictures in full color, at high levels of lighting and contrast, and which is called Eidophor. The strange sounding name is derived from Greek, and consists of the word Eido, meaning image, and Phor, meaning bearer; hence image-bearer. Developed by a group of Swiss scientists, Twentieth Century-Fox holds the world-wide rights for the manufacture and distribution of projectors embodying Eidophor, and has adapted to it the Columbia Broadcasting Company's color process.

Simply defined, the system is a light valve capable of projecting video information on large screens at such contrast and light levels as may be required by the user. The outstanding advantages claimed for Eidophor are its ability to produce extremely high light outputs for projection of any required size, and its ability to display one or many colors as required for the single presentation of complex information or pictorial matter.

EQUIPMENT

The Eidophor system is comprised of the projector in the theatre projection booth, a studio-theatre television remoting link, and color television cameras and synchronizing channels at the studio, together with associated sound equipment. The Eidophor projector was developed by a group of Swiss scientists of the Federal Institute of Technology and Doctor Edgar Gretener A. G., of Zurich. The collaboration of this group with the 20th Century-Fox technical staff under the direction of Earl I. Sponable, and with color television of the Columbia Broadcasting Company and the General Electric Company, converted the original Swiss black and white equipment for full color projection.

Projector

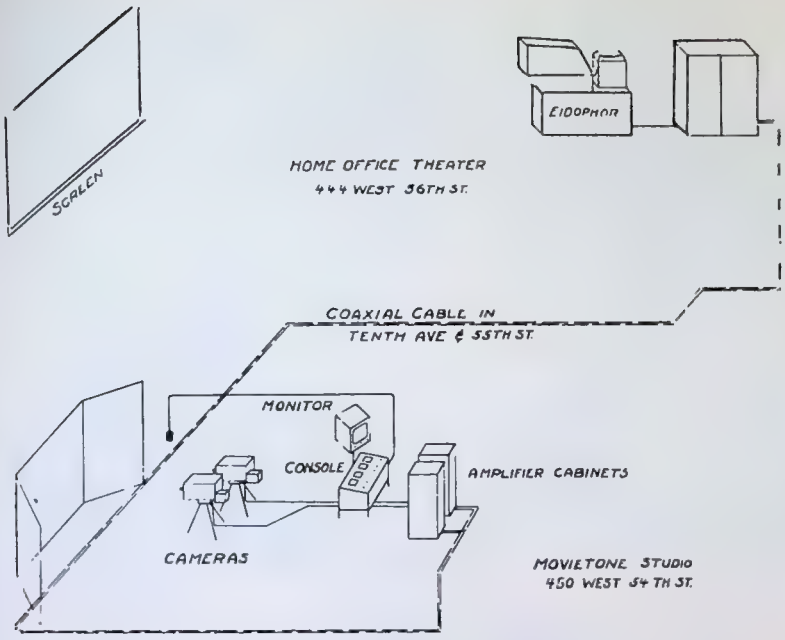
The Eidophor projector is physically very much like a standard theatre motion picture projector in size, weight, and shape. It has the same type of controls for sound facilities and, in addition, employs a relay-rack cabinet housing the electronic circuits and controls. As in the standard moving picture projector, a carbon-arc light source is used, with appropriate projection lenses to magnify the televised image to the desired screen size.

In a moving picture projector a strip of film carrying a series of images is passed intermittently through the light beam, a shutter being provided to cut off the light while the film is traveling. In the Eidophor projector, instead of photographic images on a strip of film, a sequence of images is created on a thin layer of special liquid, about the consistency of honey, which is placed on a slowly rotating mirror surface in a position optically equivalent to the position of the film in an ordinary projector. The succession of images on the thin liquid layer is produced by means of electrons deposited on the surface of the liquid; these electric charges are controlled by the television signal in much the same manner that a television signal is used to produce an image on a television picture tube.

The essential difference is that in the home receiver tube, the electron beam strikes the screen of the tube and causes the phosphor material to glow, point-by-point, and line by line, with a brightness which is proportional to the point-by-point brightness of the original scene. In the Eidophor system, however, the electron beam causes the Eidophor liquid to take on tiny surface irregularities and thus to change its optical properties; the picture so produced appears very much like the relief image in hardened gelatin used in some photographic processes, after the silver image has been bleached away. By means of auxiliary lenses and properly arranged mirrors, the instantaneous picture on this "image bearing" layer of liquid, is projected to the screen.

As noted, the Eidophor image is in a position "optically equivalent" to the position of the film in a standard projector. This point should be explained further. In the motion picture projector the center line of the light beam passes through the center of the picture being projected; and along the same straight line through the center of the lens to the center of the screen.

IN BEAUTIFUL EIDOPHOR COLOR this scene is dramatically impressive and easy to view.



THE OPERATION OF THE EIDOPHOR SYSTEM is illustrated in this simplified artist's conception.

In the Eidophor system the light from the arc passes through auxiliary lenses to a plane mirror arranged in parallel bars and set at about 45 degrees to the light beam direction, which reflect half the light downward. Half because the widths of the mirror bars and of the spaces between them are substantially equal. So half the light is lost, just as half the light is lost by shutter blades in the standard motion picture projector. The light that travels downward strikes the Eidophor liquid film and the reflecting mirror surface on which the liquid is carried.

This mirror reflects the light straight back along the same path, provided there is no picture, or distortion on the Eidophor liquid surface. When there is no picture, the reflected light strikes the tilted mirror bars, and is again reflected back to the lamp house, not to the screen. Hence, there is no light on the screen when there is no picture on the Eidophor liquid. However, when a picture is formed on the Eidophor liquid, the optical properties of the liquid layer are changed, and the light reflected by the Eidophor mirror is bent aside or deflected, enabling it to pass through the slots between the tilted bars. The picture forming light passes through the objective lens and then strikes a final mirror which directs it to the screen.

Since the amount of deflection of the light from each point-by-point area of the Eidophor picture depends on the amount of deformation of the liquid at that picture point, and since each picture is scanned by the electron beam many times a second, a complete picture reaches the screen.

The pictures seem to have action of course, just as do moving pictures, or home television pictures, because the component images follow each other in such rapid succession that the human eye cannot see the pictures separately.

Color Problem

A final consideration is the color problem. Motion pictures can be made in color if three separate films are used — one color in a manner to produce on the screen red light yielding a stimulus equivalent to the red stimulus received by the eye when it views the scene; one colored blue in a similar way; and one similarly colored green. If these three partial color pictures are projected together, a complete picture in natural color will result.

Now these separate color records may be projected at the same instant, that is simultaneously; but they could equally well be projected one after the other at a sufficiently rapid rate so that the eye does not see the colored images as separate and distinct single color pictures.

This latter system is roughly the field of sequential method of CBS color television; the same basic technique which is used with the Eidophor system. The theatre television standards are considerably improved over home television. A small wheel composed of red, blue, and green segments is inserted in the beam of light at the arc lamp of the projector, and is rotated so that the red, blue, and green segments are placed in position in the beam at the instant that the television signal contains picture information of the corresponding color.

The Eidophor process has a number of advantages beyond those already mentioned, which are of interest mainly from a technical point of view. Among those the "storage time" of the picture on the Eidophor liquid can be controlled for greatest efficiency; the system is not limited to field sequential color methods — simultaneous projection of color field is also possible. However, it is believed that the quality of the results, from the simple and straight-forward field sequential method of producing large screen TV pictures in color, warrants its immediate use.

SYSTEM PRINCIPLES

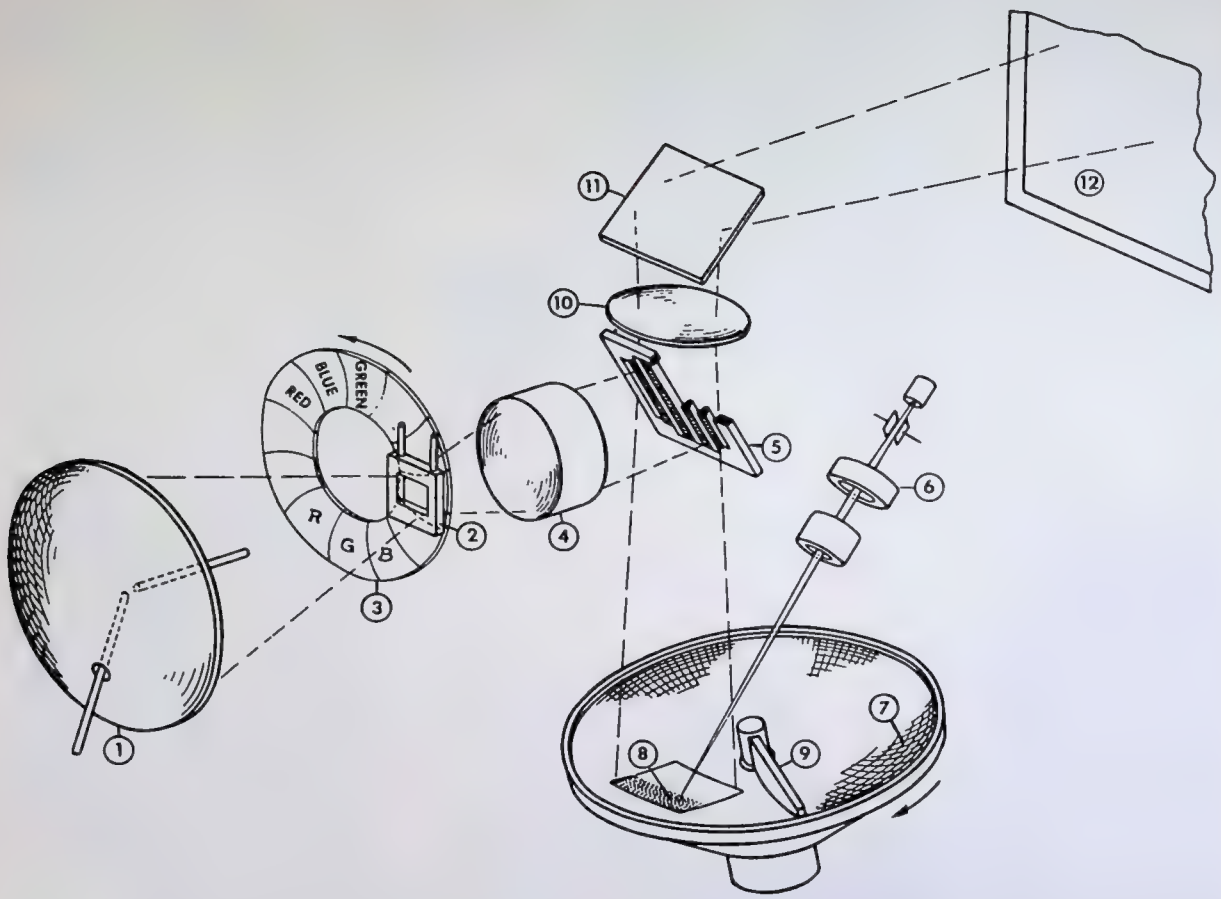
The Eidophor projector makes use of an arc-light source for the illumination of the large screen picture. The brightness, therefore, as in film projection, depends largely on the intensity of this light source. This fact, and the relatively high efficiency of the system, enables the production of very high screen illumination. Light rays from the arc source are passed through an optical lens and onto a Schlieren optical plane placed at 45 degrees to the light source path. The Schlieren optical system consists of a series of front silvered mirror strips positioned in a plane and equally spaced with their separation equal to their width, so that half the light passes through to an absorptive surface. The remaining 50 per cent is reflected at 90 degrees and uniformly illuminates an area, approximately seven and a half by 10 centimeters, on a concave mirror surface. The concave surface of the mirror casting has a thin coating of special oil, the Eidophor liquid. A very slow rotation of the mirror, in conjunction with a smoothing plate in contact with the liquid, is used to maintain a smooth liquid surface which otherwise would be subjected to a gradual physical deformation as a result of continued scanning by the electron beam. The casting, and hence the liquid coating, is maintained at a controlled temperature in order to achieve the proper time constant characteristics for video signal response and scanning rates.

Electron Beam

The area of the liquid, which is exposed to the illumination of the arc source, is also scanned by an electron beam carrying the picture information. The orientation of the scanning lines is at right angles to the Schlieren strips. The electron gun which generates the beam is conventional in that magnetic focusing and deflection for faster scanning are employed, however, a bombarded cathode is used. This system is unique in its use of added electrostatic deflection plates to which the picture signal is applied. These plates are so positioned as to superimpose small deflections parallel to the direction of the horizontal scanning lines. A 50 megacycle carrier, which is amplitude modulated by the picture signal video, is applied to these electrostatic deflection plates. This produces a variation of density of charge deposited along each scanning line on the Eidophor liquid.

Under the influence of electrostatic forces from the charges deposited by the scanning beam, the surface of the oil is deformed or dimpled along the scanning lines at a 50 megacycle sine wave rate. The depth of these dimples during each picture element is proportional to the amplitude of this carrier, which amplitude is determined by the video signal.

If there are no deformations on the liquid surface it is so shaped as to image the light from each of the silvered strips of the Schlieren mirror back on itself and then back to the arc source. Deformations



ABOVE IS A SCHEMATIC SKETCH OF EIDOPHOR PROJECTION—1. Arc light source. 2. Aperture plate. 3. Color wheel. 4. Condenser lens. 5. Mirror bar system. 6. Electron gun and deflection system. 7. Spherical mirror with thin layer of Eidophor liquid. 8. Electron bombarded liquid area that modulates light beam. 9. Knife edge determining thickness of liquid layer. 10. Projection lens. 11. Directing mirror. 12. Theatre screen.

resulting from scanning during a black picture (zero amplitude of the 50 megacycle sine wave) signal produce grooves in the oil which cause deflection of the light beam along the Schlieren strips so that still no light passes through to the projection lens. Finally, in an area where the 50 megacycle sine wave is present, causing dimpling along the scanning line, light is deflected at right angles to the Schlieren strips, thus permitting the particular bundle of light to pass through the projection lens which images it on the screen. The amount of this light is proportional to the amplitude of the 50 megacycle sine wave.

In essence, then, the Schlieren strips act as a variable iris whose opening is different for each elemental area of the raster and depends on the surface conditions thereon. As in most irises, the location of those strips is as close to the center of the projection lens as is possible.

WHAT EIDOPHOR MEANS

All those who saw the demonstrations of Eidophor held in New York, were firmly convinced that from the technical and mechanical point of view this new color TV system had just about arrived. However, this brings up a very important question: Just what will Eidophor mean to the industry?

A few voices were raised doubting just how much of an impact Eidophor will have in the long run. One of these was Bosley Crowther, motion picture critic for the New York Times. After attending a session of Eidophor, Crowther admitted that "the system looks surprisingly good." However, he questioned what advantage large-screen color television had over a Technicolor film, other than transporting an image more quickly from its source.

Crowther agreed that the drawing power of special programs, such as top sporting events, has proven to be a profitable enterprise as far as large screen theatre television is concerned. However, he doubted if the public would go for a steady diet of Eidophor shows on a regular basis, even if they were of top notch caliber, once the initial novelty wore off.

The Bright Side

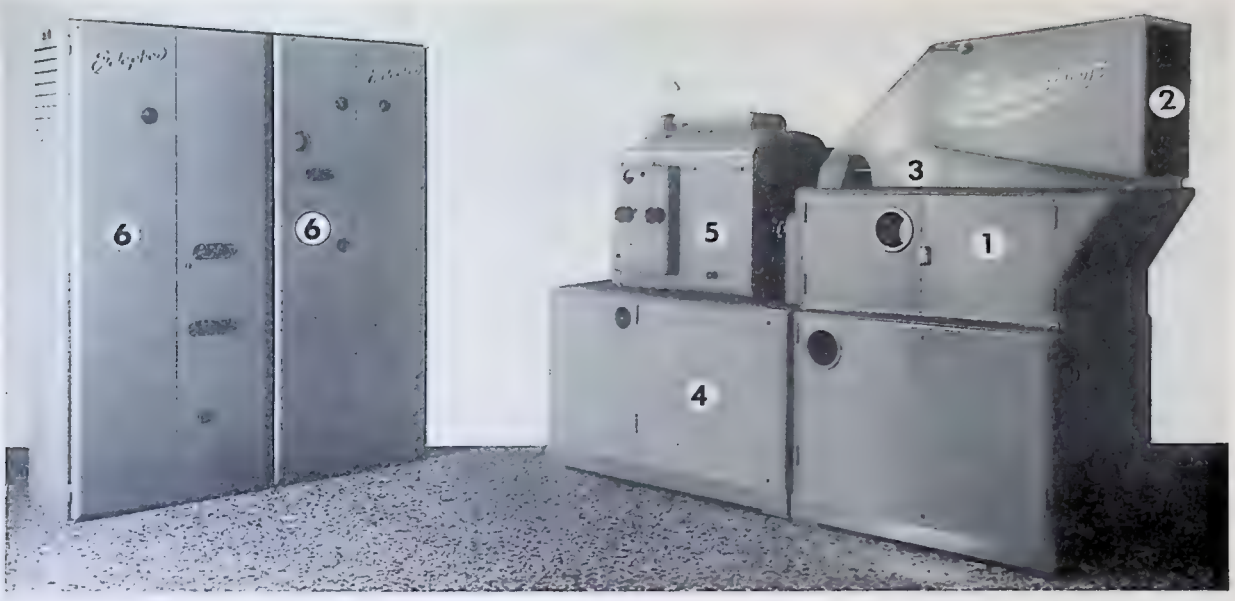
Despite the protests of a few, most of those who have seen Eidophor seem to be of the opinion that it has a tremendous potential. From the standpoint of theatre audiences, Eidophor offers two important aspects. First, the entertainment it will provide will be enhanced in its appeal to patrons because live shows and events, plus motion pictures, will be instantaneously transmitted from a central point of origin to hundreds, and even thousands of theatres, simultaneously. Therefore, the element of immediacy is added to that of unlimited range in the type of entertainment made possible.

The second point is that Eidophor is said to project moving images with a perfection equal to, if not superior to, the present film motion picture projection, and transmits color with startling fidelity to the natural tints of flesh, costumes and nature, no matter how rapid the action be.

Every patron, no matter where his theatre is located, will have the equivalent of a front row seat for all the latest and finest entertainment, ranging from top motion pictures to new Broadway shows, top popular singers, opera, etc.

The Exhibitor

From the standpoint of the theatre exhibitor, Eidophor can be of uppermost importance because it will put at his disposal attractions heretofore beyond the reach of theatres located outside of the largest cities. All that is new and up-to-



EIDOPHOR LARGE SCREEN TELEVISION PROJECTION EQUIPMENT—1. Eidophor projector. 2. Projection light beam hood. 3. Color Wheel. 4. Auxiliary services (vacuum pump, thermostat and system for Eidophor cooling). 5. Projection lamp (Ventarc type). 6. Television receives circuits.

date in entertainment can be offered by every theatreman. Eidophor can be installed with only minor changes in the projection booth, it is simple to operate, and it can be made to receive any type of television signal either in black and white or in color from that now in use, or in the foreseeable future. As experience is gained through its use more efficient and profitable aspects of the Eidophor system will become apparent.

Future Plans

At the present time the plans at 20th Century-Fox, concerning Eidophor call for a show to be built up for telecast in the same manner as stage shows are presented at the Radio City Music Hall in New York. Just as these shows are played in the theatre three or four times a day, they will be telecast for the exclusive theatre reception and used by each theatre according to its individual policy, whether this calls for two, three or four shows a day. The main attraction will be a feature motion picture with the "live" show built around it.

It is planned to telecast these shows from New York, for example, to cover the Eastern time zone. For the Central time zone other, or similar, shows will be telecast from Chicago, or some other central location in that zone; from Denver to cover the Mountain time zone; and from Los Angeles or San Francisco to cover the Pacific time zone.

There can be a new show every week so that eventually there will be three, four, or more shows telecasting every week to cover all theatres. In smaller communities, where theatres may have two changes or more a week, it will be possible for them to have different television shows for each change.

As Eidophor develops through experience it is hoped to present regional shows of a more localized nature when the occasion justifies this. Resourceful showmen should be able to develop additional uses for Eidophor.

CONCLUSIONS

A great scientific step forward, the scientists and technicians have done almost all that they can in developing this new system of large screen color television. At this point it is up to 20th Century-Fox and the exhibitors to take this new instrument and create from it, by evolving programs which will please the public, a new source of entertainment and revenue.

From the very outset Eidophor's greatest champion and staunchest believer in its future has been Spyros P. Skouras, president of the 20th Century-Fox Film Corporation. The following is a statement he made which seems to sum up all the hopes and aspirations of those who expect great things from this new system:

"In an age of miracles, new marvels of science continue to widen our horizons, and enrich our manner of living.

"In our time, the electric light, the telephone, the automobile, the airplane, the motion picture, the radio, and now television, have developed to a degree truly incredible from the viewpoint of our grandfathers. Every new invention and discovery has brought revolutionary betterment in our way of life.

"In the field of electronics, the accelerated pace of research has now produced as significant a new process as the addition of sound to moving pictures on the screen.

"As a gift of science, Eidophor is the golden key opening the door to an era of far wider dimensions in screen entertainment for the public and increased patronage for the theatre.

"As a new form of entertainment and enlightenment, Eidophor will place all the gifted talents of the earth — the peerless artists of every category — as well as current history as it is enacted, within the reach of theatre audiences of every community, large and small, no matter where located. These will be incorporated in unexcelled shows, built around the feature motion picture, but covering the widest range of entertainment.

"Eidophor, enhanced by the Columbia Broadcasting System color process, will bring this high quality entertainment instantaneously from anywhere to everywhere, providing people in every interior city and town not only with motion pictures but with live presentations of metropolitan stage shows, spectacles such as the circus, water spectacles, and popular artists and attractions of every conceivable type.

"Superior entertainment heretofore available only to the few will be available to all — to millions instead of thousands — through Eidophor, because it will enable many theatres, for the first time, to present these incomparable shows simultaneously, with the telecasting and programming arranged to conform to the different time zones of the country.

"Eidophor, in addition, will provide through the circuits of theatres it will link together, an emergency means of communication available for public service purposes in times of emergency.

"Combining other forms of entertainment as well as other media of communication, Eidophor will also enlarge cultural opportunities of the people, stimulate the arts and add to the economic well-being of every community, large and small.

"To my mind, Eidophor is another onward stride in the collaboration of the arts and sciences for the further betterment of mankind."

16mm Film Developments That Merit Attention

A 745-Seat Industrial Theatre, and a Home-Applied Magnetic Sound Track, Provoke Interesting Speculation

In theatres it is called showmanship, in community affairs it goes by the name of public spirit, and on the business front the term used is industrial relations. However, when stripped to their essential function, all three are identical in purpose; performing a service beneficial to all concerned. Ever since it evolved from a series of silent, halting lights and shadows, film has played an ever increasing role in the daily lives of John Q. Public.

BRIEF: ***With the conversion of 35mm professional prints to acetate (safety) film base . . . formerly used only by the industrial and amateur 16mm . . . only the equipment and size of picture differ. The day may be close when new pictures will be available on either gauge as desired. But, even now . . . for small, unconventional theatres . . . for local newsreels . . . and for local little theatre groups . . . 16mm film and equipment warrants consideration. The ability to shoot a cheap silent print . . . and add the desired commentary through a magnetic sound track . . . that can be changed at will . . . opens wide exploitable vistas to the thinking showman.***

The past few years have seen the rapid growth and expansion of television. Too many have shown a tendency to throw their hands up in despair and bow in submission to the great god TV. Others have attempted to ape the ostrich, hoping that the menace will roll over and die if it is ignored. The plain and simple fact is that television is here, and here to stay. Wailing, or the turning of backs will not meet this challenge, but initiative, imagination and the full utilization of all the facets of this great sprawling giant called movies, can and will.

One virtually untapped phase of the film industry, is the 16mm theatre. The great flexibility and simplicity of the medium gives it a huge number of uses and variations. On the industrial level the Armstrong Cork Company has taken the idea of the 16mm theatre and made full use of its potential.

A Typical 16mm Theatre

Fully aware of the importance of good labor-management relations the Armstrong people decided to construct an auditorium in their main headquarters in Lancaster, Pennsylvania. It was also decided that this would be the most modern and fully equipped theatre possible. Many a wonderful scheme has been a failure because those who initiated it failed to carry through to the proper conclusion. However, from the outset the Armstrong organization had in mind a place that would be both functional and appealing to the eye, and one which would create a sense of pride in both employer and employe.

Selecting the Company's General Offices as the site, the structure was built with the best materials, decoration and design available. With a seating capacity of 745, the theatre is equipped to handle an infinite number of activities. The stage would do justice to many professional houses, as would the public address and lighting systems. There are also facilities for radio broadcasting and an electric organ, in addition to the 16mm equipment.

The large inner lobby is used as a display area to exhibit all Company products. The floor covering material is Linotile, an exclusive Armstrong product which is used on all of the floor areas. Lighting is supplied by Holophane fixtures and the ceiling is an incombustible material called Travertone.

Inside the auditorium, the decoration and color schemes used throughout are rich and warm, and yet are completely consistent with modern theatre atmosphere. The side wings are de-emphasized with darker colors so as to focus attention upon the stage. The design of the flooring, which is a gradual transition from the dark color at the sides to a light color in the center by the use of inset bands, all tying in with the color transition of the wall and ceiling coves, is an important part of the decorative scheme. An interesting feature of the auditorium is the specially designed upholstered chairs. When in place the seats, which are in cool aluminum trim and metalic gray covering, are comfortable and give an appearance of permanence. However, they can be folded and removed in 15 minutes, leaving the auditorium clear for dancing, or other activities requiring open floor space.

Outstanding stage, projection and lighting facilities have been provided. The spacious fireproof eight-port projection booth is completely treated acoustically, and houses the Bell & Howell 16mm Filmoarc machines plus powerful slide projectors and assorted spotlights. Complete stage and decorative auditorium lighting is available with switchboard control to obtain an infinite number of lighting effects and combinations for any type of stage production.

In keeping with the general feeling of the entire project, the stage itself is ample and practical. Inside the proscenium arch the opening is 22½ feet high and 44 feet wide. The stage is supplied with a disappearing lectern. To facilitate the smooth working of any type of function being offered, there is an inter-communication system from stage to projection booth and control booth at the rear of the auditorium.

A completely professional center for business and social affairs, the Armstrong 16mm Theatre has a fully equip-

THE AUDITORIUM LOBBY also serves as exhibit area for Armstrong's products. The floor is Armstrong Linotile and the ceiling, Armstrong's non-combustible acoustical material, Travertone.

THE STAGING FACILITIES are complete; the equipment is professionally and technically good.

ped loft space, two tiers of dressing rooms, a prop room, and a radio control room. In addition, separate from the auditorium, but directly connected to it by a passageway, are complete prop and scenery construction facilities.

Purpose

The advantages of such a fine theatre to a large industrial organization as the Armstrong Cork Company, are obvious. Tailor-made to specific needs and requirements, it offers an ideal site for conventions, sales meetings and other business gatherings. With such a wide selection of equipment to choose from the management can make an effective combination of films, slides, talks and live demonstrations to help put over some training, sales or promotional program.

Perhaps the greatest advantage can be found in the field of employe relations. Many studies have brought out the fact that a worker often places a sense of belonging even higher than wages. An auditorium of the type that Armstrong has constructed makes it possible to map out a complete program of employe activities, ranging from the showing of technical films and giving lectures, to a weekly radio show, scheduled movies, and amateur theatrical productions.

Commercial Possibilities

A recreational and information center with the 16mm camera as the focal point is by no stretch of the imagination limited to industrial uses. In the hands of an ambitious and skillful businessman, an attractive small community 16mm theatre could be developed into a highly successful venture.

During the past decade there has been an amazing growth in the general public's interest in things cultural and artistic. This growth has not been restricted to large cities, and interest is as strong, if not stronger, in the smaller community. Proof of this can be found in the ever increasing number of symphony orchestras that are being organized. The country-side is filled with roving companies offering operas and great dramatic works. Concert artists are becoming conscious of the fact that the so called "sticks" are filled with people who have a fine appreciation of art.

With proper planning, an enterprising showman could develop a means to help satisfy the public's thirst for the fine arts, and find a sturdy foundation in 16mm films. There are huge libraries of 16mm films covering almost every subject and theme imaginable. Most of them are excellent productions, and often deal with topics which could not be found in regular movie houses, or on television. Programs appealing to almost every taste and temperament could easily be arranged. And some of them without cost.

The 16mm Club

It has been found that when making use of films dealing with the arts and sciences, creating a mood of intimacy and privacy usually gets the best results. On the basis of this fact, it is often detrimental to have an auditorium that is overly large. Creating a "16mm Film Club," with members paying fees and dues, as opposed to throwing it open to the general public and charging admission, has proven to be an effective method.

Although films would naturally make up most of the activities of a 16mm Club, the auditorium can be employed in other useful and profitable functions, and still remain in character. It is almost axiomatic that patrons of such an organization would also enjoy live lectures, piano and violin concerts, etc. The owner of the club could either handle the details for such events himself, or, and this would perhaps be wiser, rent it out to someone more experienced in such matters.

Concerning the running of such an establishment, the very nature of the operation precludes large staffs or expenditures. In most cases, a staff made up of someone to run the projector, an usher who would help in keeping the place clean, and a secretary to handle the correspondence and perhaps act as a sort of hostess, would be sufficient. The cost of 16mm prints is usually well within reason.

A source of revenue not to be overlooked in a film club operation is that to be gotten from the extra profits department. Regardless of whether people come for entertainment or cultural enlightenment, they still get hungry and thirsty. In maintaining the atmosphere of a club, however, the sale of these products should be handled in as informal a manner as is possible.

Place in a Shopping Center

A development which has been expanding rapidly in both the large and small community, is that towards the construction of large shopping-recreation centers. The obvious advantages of having a centrally located area in which to shop and find some amusement, have been appreciated by many, as evidenced by the growth of such centers in all parts of the country. In such a center the versatile 16mm theatre once again can play a useful role.

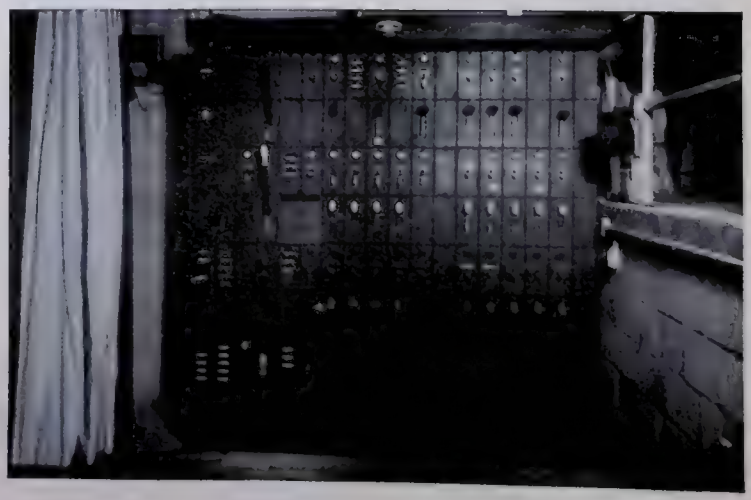
One possible use for such a theatre would be the establishment of a place where mothers could drop off their youngsters while they shopped, or even took in a movie. The shops themselves could very well be willing to sponsor such a venture as a service to their patrons. If taken on as a joint operation, the costs would be nominal and probably show a profit in the increased sales and good will.

In running such a theatre for tots, specially prepared programs of both an educational and entertaining nature would be arranged. It would also be necessary to maintain a staff trained to handle children. After store closing hours the auditorium may possibly be rented out to a 16mm club of the type described previously, thus adding another source of income, as well as performing a public service.

New Home-Made Sound

A recent development in 16mm equipment suggests a number of interesting

THE STAGE AND DECORATIVE LIGHTING has controls which produces infinite effects.



THE SPECIALLY DESIGNED AUDITORIUM CHAIRS, shown at top, can be folded for quick removal. The 8-port projection booth, seen in the middle picture, is fireproofed and acoustically treated while the center ceiling, also shown, includes Arrestone, another Armstrong non-combustible acoustical material. The stairway (below) leading to the balcony has Linotile flooring and Travertone ceiling.

possibilities. Developed by the DeVry Corporation, this new 16mm recorder-projector records and plays back sound by means of a narrow strip of magnetic iron oxide on the edge of the film. Operating with properly processed film, the new equipment affords immediate playback of the magnetic sound track, plays back optical sound-on-film recordings, includes a means of erasing the sound so that changes can be made or the entire film erased for re-recording, provides for immediate changeover from magnetic track to optical track, and may be used as a tape recorder, reproducing the sound track only.

With such a device one possible use is the producing of local news programs, using your own commentary on the sound track for the cost of silent black and white or color film. The sound produced is of professional quality.

Versatility

On the industrial front this new development makes it possible to eliminate many uneffective technical and sales talks, and replaces them with sound films that say exactly what the company executives wish to emphasize. The ability to edit or completely erase the sound track and replace it with a new one, greatly extends the usefulness and life of the film.

In a shopping center 16mm theatre, this device would enable the use of specially prepared films. It could be utilized as a selling medium, or put in operation to support local charities, and other activities. The 16mm Film Club could make up its own trailers and supply the personal touch that is so important. Still another possibility is to work out a program with a local camera club and have home grown talent produce their own films complete with sound. If the idea catches on, annual contests could be established. The uses for such a device are as numerous as those for the 16mm camera itself. And with the constant research and development of new equipment and techniques, the future looks exciting and promising.

Conclusions

It would be a ridiculous flight of the imagination to even think for a moment that the 16mm theatre will come even close to supplanting the standard 35mm houses. The medium has neither the facilities or the potential to compete. However, neither does this mean that there is no real place for 16mm films. The uses outlined here just scratch the surface of a form of entertainment that is capable of an amazing number of variations. The principle of free enterprise is as American as apple pie. The realization that if an idea which is approached with a fresh spirit, some ingenuity and a willingness to work for something you believe in, can succeed, has been the force that has made this nation great. The 16mm theatre can become a vital and alive part of community and industrial life. It can provide regular scheduled programs, that can outdraw in local importance all except the biggest televised national events, at a fraction of theatre television costs. The potential is there; it is up to someone to make use of that potential.

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